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RESEARCHES  
INTO THE ORIGIN OF THE  
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BABYLONIANS

BY

ROBERT BROWN, JUN., F.S.A.

AUTHOR OF 'POSEIDÓN,' 'THE GREAT DIONYSIAK MYTH,' 'LANGUAGE, AND THEORIES OF  
ITS ORIGIN,' 'THE UNICORN,' 'THE LAW OF KOSMIC ORDER,' 'ERIDANUS, RIVER  
AND CONSTELLATION,' 'THE MYTH OF KIRKE,' 'THE HEAVENLY DISPLAY  
OF ARATOS,' 'TELLIS AND KLEOBIA,' 'SEMITIC INFLUENCE IN  
HELLENIC MYTHOLOGY,' ETC.

*'Hitch your wagon to a star.'*—EMERSON.

VOL. II.



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# CONTENTS.

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## INTRODUCTION.

General results arrived at in the first volume—List of Cuneiform Tablets selected for translation—Notice of certain criticisms—The transliteration of names by Greek and Barbarian—Question of the identification of Greek and Euphratean Constellations—The work unconnected with matters religious xi

## CHAPTER IX.

### THE CONSTELLATIONS IN THE BABYLONIAN CREATION-SCHEME.

The Fifth Tablet of the *Creation Legend*—Account in Diodóros—Tablet *Sm.* 162 — Tablet *No.* 83.1-18, 608 — Tablet *No.* 81.7-27, 94—Sumero-Semitic names of the Months—The *T<sub>2</sub>* Tablet — Euphratean Constellation-names already obtained—Other Euphratean Constellations—Restoration of the Scheme of the 36 Constellations, . . . . . 1

## CHAPTER X.

### CONSTELLATION-SUBJECTS IN EUPHRATEAN ART.

Stones of Nabúkurra-utsur I., and of Marúduku-Baládan I.—Other engraved Stones—Composite Creatures—Representation of the Divisions of the Universe—The Signs of the Zodiac — Extra-zodiacal Constellation-subjects — Euphratean connexion of Mithraic Art . . . . . 28

## CHAPTER XI.

### THE TABLET OF THE THIRTY STARS.

Section I.—Introductory . . . . . 59  
Section II.—Translation of the Tablet, with explanatory notes 67  
    Sub-section I.—The Archaic Lunar Zodiac . . . 67  
    Sub-section II.—A further list of Star-names . . . 95  
    Sub-section III.—The Epilogue . . . . . 98

## CHAPTER XII.

## SOME STELLAR GROUPS OF SEVENS.

Section I.—The <i>Tiksi-Tikpi</i> Stars . . . . .	106
Section II.—The <i>Lu-mási</i> Stars . . . . .	110
Section III.—The <i>Mási</i> Stars . . . . .	138

## CHAPTER XIII.

## THE CELESTIAL EQUATOR OF ARÂTOS.

Account of the Celestial Equator in the <i>Phainomena</i> —Agreement of the description with the position of the Equatorial Constellations as viewed from the Euphratés Valley, B.C. 2084— The <i>Ram, Bull, Orion, Water-serpent, Bowl, Crow, Claws, Eagle, and Horse</i> , all Euphratean Constellations— <i>Khu-zaba</i> ('the Kite'), the Classical <i>Iktinos-Milvus</i> . . . . .	143
--	-----

## CHAPTER XIV.

## FURTHER CONSIDERATION OF THE EUPHRATEAN CELESTIAL SPHERE.

Section I.—The <i>Dilbat</i> Tablet . . . . .	150
Section II.—The Twelve Stars of the West . . . . .	159
Section III.—The Fields of Anu, Bél and Êa . . . . .	161
Section IV.—The Pole-star and his Companions . . . . .	176
Section V.—The Tablet <i>W. A. I. III. lvii. No. 5</i> . . . . .	191
Section VI.—The Obliquity of the Ecliptic . . . . .	201
Section VII.—The Seven Rivers . . . . .	203

## CHAPTER XV.

## THE EUPHRATEAN STAR-LIST.

Northern Constellations — Zodiacal Constellations — Southern Constellations—Comets, Meteors, and some Planetary names—Colour-names of the Seven Planets—Names of Unknown Stars—Some other Star-names—Patron Stellar Divinities of Euphratean Cities . . . . .	206
---	-----

## CHAPTER XVI.

## THE GENERAL CONCEPTS UNDERLYING THE CONSTELLATION-FIGURES.

Unity of the Human Mind—Early observation of the great and simple Phenomena of Nature—The web of Anthropomorphism—Dyads and Triads—The Law of Reduplication—Solar Activities and Personifications—Darkness—The Moon—The actual Configuration of the Stars, as a rule, quite unlike the Constellation Forms . . . . .	220
--	-----

## CHAPTER XVII.

## THE FORMATION OF THE PRIMITIVE CONSTELLATIONS.

Solar reduplication in the Signs—Illustration from Heraldry— Application of the Stars and Spaces of the Ecliptic to the Figures of the Twelve Signs of the Zodiac—The Northern Constellation-figures—The Southern Constellation-figures— Conclusion . . . . .	227
---	-----

## ILLUSTRATIONS.

1. The Sumero-Semitic Euphratean Planisphere (by the Author) . . . . .	<i>Frontispiece</i>
2. The Babylonian Celestial Sphere—Map of the Principal Stars near the Equator for the Equinox, B.C. 2084 (by the Author) . . . . .	148
3. <i>Idkhu-Aquila</i> (Stone from Babylôn) . . . . .	198
4. The Ptolemaic <i>Aries</i> (by the Author) . . . . .	229
5. The Ptolemaic <i>Taurus</i> (by the Author) . . . . .	230
6. The Lunar Bull (Hamath Inscriptions, No. 5) . . . . .	230
7. The Great Twins (from a Cylinder) . . . . .	231
8. <i>Istar-Virgo</i> with <i>Spica</i> (Terra-cotta from Nineveh) . . . . .	232
9. Scorpion and Circle (from a Gem) . . . . .	232
10. Scorpion and Lamp (from Stone of Nabûkudurra- utsur I.) . . . . .	233
11. The <i>Scorpion</i> (by the Author) . . . . .	234
12. The <i>Archer</i> (from a Boundary Stone) . . . . .	235
13. The Euphratean <i>Goat-fish</i> (from a Babylonian Stone) . . . . .	235
14. The <i>Dog</i> (from a Boundary Stone) . . . . .	239
15. The <i>Centaur</i> and the <i>Wild-beast</i> (' <i>Scarabée de Cornaline</i> ') . . . . .	241
16. The <i>Centaur</i> and the <i>Wild-beast</i> (' <i>Scarabée de Cornaline</i> ') . . . . .	241
ADDITIONAL NOTES . . . . .	243
INDEX . . . . .	247



## ABBREVIATIONS.

- Brown, Robt., Jr., *P.* = *Poseidon*, 1872.
- *G. D. M.* = *The Great Dionysiac Myth*, 2 vols. 1877-8.
- *U.* = *The Unicorn: a Mythological Investigation*, 1881.
- *L. K. O.* = *The Law of Kosmic Order*, 1882.
- *E.* = *Eridanus: River and Constellation*, 1883.
- *K.* = *The Myth of Kirké*, 1883.
- *H. D.* = *The Phainomena or 'Heavenly Display' of Aratos*, 1885.
- *V.* = *The Zodiacal Virgo*, 1886 (*Yorkshire Archaeological Journal*, Part xxxvi.).
- 30 *S.* = *Remarks on the Tablet of the Thirty Stars*, 1890 (*Proceedings of the Society of Biblical Archaeology*).
- *Z.* = *Remarks on the Euphratean Astronomical Names of the Signs of the Zodiac*, 1891 (*Proc. Soc. Bib. Archaeol.*).
- *E. S. R.* = *Euphratean Stellar Researches*, Parts I.-V., 1892-6 (*Proc. Soc. Bib. Archaeol.*).
- *C. E. A.* = *The Celestial Equator of Aratos*, 1892 (*Transactions of the Ninth International Congress of Orientalists*).
- *O. N. C.* = *The Origin of the Ancient Northern Constellation-figures*, 1897 (*Journal of the Royal Asiatic Society*).
- *Sem.* = *Semitic Influence in Hellenic Mythology*, 1898.
- W. A. I.* = *Cuneiform Inscriptions of Western Asia*, Vols. I.-V.
- K.* = *Kouyunjik Collection of Cuneiform Tablets* (British Museum).
- Ak.* = Akkadian.
- Ar.* = Arabic.
- As.* = Assyrian.
- Bab.* = Babylonian.
- Eg.* = Egyptian.
- Et.* = Etruscan.
- Ph.* = Phoenician.
- Sem.* = Semitic.
- Sk.* = Sanskrit.
- Sum.* = Sumerian.

## INTRODUCTION

### TO VOLUME II.

IN the first volume of this work I have treated at length of the ancient constellations as they appear in Greek literature from the earliest times to the days of Ptolemy, paying special attention to the Homeric references to stars and Signs. I have also noticed, in very considerable detail, how the constellation-forms, with hardly an exception, reappear as coin-types, and how nearly all the most prominent of the heavenly Signs are familiar subjects in the early unnumismatic art of Asia Minor and of the Aigaion seaboard. Lastly, I considered Babylonian astronomy subsequently to the age of Alexander, and with particular reference to the question whether the Euphrateans had an independent scientific astronomy of their own, or whether they were wholly indebted for this to Greek intellect. I found reason unhesitatingly to believe that throughout the earlier intercourse between Hellas and the Euphratês Valley, the former was the borrower; and that the main foundations of the science were laid in the country of the Two Rivers at a period when the Greek was an uncultured, although doubtless highly intelligent, barbarian. I also noticed that many of the ancient Greek constellations were actually identical with those of Babylônia, and had been introduced into Hellas through the medium of the Phœnicians, and of the mixed peoples of Asia

Minor. Further, I adduced a variety of reasons in support of the view that the constellations named in early Greek writers, such as Homer and Hêsioid, did not represent the only Signs known to them at the time; and that others, equally familiar, were not mentioned, simply because the subject did not require any reference to them. It remains for me, in the present volume, to trace back, by illustrative instances, the employment of the constellation-figures in the Euphratês Valley to a very remote period, and to explain, if possible, the mental process pursuant to which these familiar forms first came into existence.

The mass of early Euphratean literature upon stellar subjects was, and even is, enormous. The catalogued Tablets in the *K.* collection of the British Museum alone number 14,230, the far greater portion of which are more or less astronomical. But the vast majority of them are of little or no service in the present enquiry, as they merely repeat familiar star-names in connexion with actual terrestrial occurrence, on the *cum hoc, ergo propter hoc* principle, or else only record simple astronomical observations which were continually being made, such as—‘The moon rose, and the star  $\alpha$  in its place is fixed.’ Here and there, however, we come upon Tablets of the highest value, such as give lists of stars or constellations connected with different months, or with special portions of the heaven, and we also meet with occasional very useful explanatory glosses. Out of the mass of cuneiform evidence available, I have specially selected for translation and comment:—

Tablets *Sm.* 162; 83-1-18, 608; and 81-7-27, 94, being three surviving fragments of the Sumero-Semitic Euphratean Planisphere.

- The 'Sign'-Tablet of the Months (*Tê Tablet*), No. 85-430, 15 (Vide Vol. I. 9).
- The Tablet of the Thirty Stars (*W. A. I. V. xlii. No. 1*), or Archaic Lunar Zodiac.
- The Lists of the *Tiksi-Tikpi*, *Lu-mâsi*, and *Mâsi* stars (*W. A. I. II. xlix. 10-13* ; *III. lvii. No. 6*).
- The Tablet of the 'Proclaimers' (*Dilbat Tablet, 81-7-6, 102*).
- The List of the 'Twelve Stars of the West' (*W. A. I. II. xlix. No. 1*).
- The List of the Stars of the Fields of Anu, Bél and Êa (*Tablet 82-5-22, 512*).
- The Tablet *W. A. I. III. lvii. No. 5* (Notices of *Centaurus*, *Sagittarius*, etc.).

These I have supplemented by numerous extracts from other Tablets, and have illustrated by several maps and figures. The result enables us to compile a very fairly complete list of Euphratean stars and constellations, although, as previously noticed, a great amount of cuneiform literature is still unpublished. That much more will be accomplished in the future in these studies I do not doubt ; but, meanwhile, I think it will be admitted that considerable progress has been made. The outcome of Euphratean astrological science may be thoroughly studied in M. Bouché-Leclercq's very learned and exhaustive work, *L'Astrologie Grecque*, 1899. The Tablets above mentioned cover altogether a period from about B.C. 500 to the third millennium B.C., a fact which implies that the mapping out of asterisms and constellation-figures had commenced long prior to the latter epoch.

In the first volume of this work I pleaded for careful criticism, which, so far, I have generally received ; and I have to thank many kindly writers for their notices, especially since the subject is intricate and off the beaten paths. In one or two in-

stances my critics have been hostile, but I regret that I have not been able to profit much from their strictures on account of the vagueness of the charges brought against me. One writer, however, is rather more definite. Thus, he says (quoting no passage) that I 'really ought to know that there is no *h* either in Assyrian or in Akkadian.' I happened to mention this dictum to the first of living English Assyriologists, who at once replied that it was 'a heresy.' The same writer is both shocked and amused because (following various high authorities) I write 'Samas' and not 'Shamash,' etc., a form with which, however, my critic might have noticed that I must necessarily be familiar, inasmuch as it occurs in various works which I have quoted. But, according to some opponents, if I don't use a form I must necessarily be ignorant of it; just as if I refer to a book written twenty years ago, it follows that I can have read no more recent work on the subject. This sort of thing, however, is not 'criticism,' but rather savours of malevolence, and betokens an inability to construe a written document. And I would ask my reviewer, 'Is it not a fact that, in proper names, an As. *s* (*Shin*) frequently = a Heb. *ś* (*Samech*)?' In a letter to the paper in which these remarks appeared, I suggested that the reviewer, in addition to such and several other equally valuable strictures, should say something about the constellations, as they formed the subject of the book. But this he (no doubt judiciously) absolutely declined to do, merely observing that he 'entirely dissented' from my view of the matter. Let the real expert smite me—it shall be a kindness; and let him reprove me—it shall be an excellent oil; but from the anonymous reviewer, who feigns to know so

much, and yet is found to be wanting, or to keep his wisdom carefully to himself, I can derive no benefit. Another reviewer really seemed to be very angry because I write 'Dârayavaush' instead of 'Darius.' He was specially aggrieved at the reason I gave, 'inasmuch as that was his name,' and fiercely taunted me with writing 'Alexander.' As I observed, 'Severe logical uniformity in this matter is not at present attainable.' Had I rashly written 'Alexandros,' my critic might have suffered from a rush of blood to the head.

With regard to the suggested derivations of various proper names, my judges occasionally write that this or that is incorrect or 'absurd,' but specify no reasons for their opinions. As far as I can gather, they appear to confuse two things which are entirely distinct: namely (1) the established laws of letter-change in connected languages and dialects; and (2) the rough and ready way in which people endeavour to express in speech or writing words and names quite unfamiliar to them. When we are dealing with the attempts of Greeks, in the early historic period, to express Semitic words, or even non-Hellenic Aryan words in a Greek form, there is no Grimm's Law to guide us. When the Great King, *Khshayārshâ*, invaded Hellas, the Greeks, making the best they could of it, turned his name into *Xerxês*; but how impossible it would be, by any rules of Aryan letter-change, to recover the former from the latter. If we had no historical knowledge on the point, I can imagine the scorn with which several modern critics would treat the suggestion that these two names were really identical. Or, again, when a Babylonian had to grapple with the difficulties of such a Greek name

as *Stratonikē*, how did he express it? He wrote *As-ta-ar-ta-ni-ik-ku=Astartanikku*. Here, too, we have no regular laws of letter-change which would lead to this result. To take another instance. We know that the name of the chief Assyrian god of later times was Assur, and we read in the A.V. that Sennacherib was worshipping in the house of Nisroch his god. Can there be any connexion between the words *Assur* and *Nisroch*? Undoubtedly there is. As Mr. Pinches has shown (*Journal of the Royal Asiatic Soc.*, April, 1899, pp. 459-60), Assur=the Gk. forms Ἐσοράχ and Νασαράχ, which consist of Assur+the ending -ak, 'which appears as -uk in the full form of the name of Marduk, namely, Amuruduk.' Bearing such and many other similar instances in mind, it will be observed that there is nothing impossible, or, in the abstract, even improbable, in my suggestion, based on a variety of connected circumstances that such a name as the Gk. Aleos (Vol. I. 232) represents an original Sem. 'Eliôn, 'Eliûn, which we find admittedly elsewhere in Hellas in the form of Elieus. Aleos may possibly be a variant form of ἀλεεινός ('hot'), and Hêsybios gives the equation ἀλεός=διάπυρος ('red-hot'); and, if so, Aleos ('the Red-hot') is a fitting son of Apheidias ('the Unsparing'), son of Arkas, 'le dieu-soleil,' as M. Bérard justly calls him. But, be this as it may, the equation Elieus=Aleos may well stand. If a Greek met with such a form as 'Eliûn Ἐλιοῦν (San. i. 5, 'Most-high'), he might very naturally regard it as an accusative of Ἐλιεός ('Zeus at Thêbai,' Hêsybios). Nor would there be anything to prevent him from reading the name Alieus, Aleos, considering such a Phœnician form as *Alonim*, 'dii pr. Superi' (= 'the High-ones'). I trust, therefore,

that the reader will not hastily accept the off-hand dicta of irresponsible persons on such matters. A reviewer may frequently have a dozen or more works before him, which he has to 'get through' somehow or other; and he is aware that unless he poses as having, years ago, gone all through the subject and come out at the other side, some people will probably regard him as unequal to the emergency.

Another circumstance which may frequently have occurred in places where many languages met together, *e.g.*, Krêtê, is the formation of words compounded of more than one form of speech. Thus, I have suggested that the phrase 'the Lord Tân' (Πόσις Ἰταῖος) became Ποσειδαν, and that Amaltheia may = Sem. *Ammâ* + Gk. *θεία* (Vide Vol. I. 221). The ordinary reviewer of a hostile type is invariably filled with contemptuous horror at such ideas; but neither he nor anyone else has ever been able to explain these names satisfactorily, or to urge any conclusive reason why my suggestion is impossible. Innumerable instances occur in which two words have been firmly welded together into a single name, *e.g.*, Uru-Salim ('The City of the god of Peace') = Jerusalem. Here, as in the cases I mention, we have the combination of a god-name and another word. If, then, in border regions we meet with divinity-names which neither Semitic nor Aryan languages can satisfactorily interpret, we might perhaps do worse than try the effect of a combination of the two.

The present study is practically a second part of my *Semitic Influence in Hellenic Mythology*. In that work I sketched in outline the principles and standpoint of the Aryo-Semitic school of Hellenic mythologists; and combated, with his own weapons



of banter and pleasantry, what seemed to me some absurdities of a certain brilliant writer on folklore, totemism, and the savage. This afforded extreme opponents an opportunity of asserting that my conduct was 'unmannerly,' and also of somewhat meanly pretending that my arguments were mere jokes which required no reply. I do not think, like those editors who sent my book to Mr. Lang to review, that a man is the best judge of his own cause; but, as my standpoint has been approved of by such savants as Max Müller and Renouf, whilst my mode of treatment of the subject has entertained men of letters of the grade of Froude and Ruskin, I am quite content that one or two 'Higher Critics' (*Vide inf.* p. 100), or some belated totemist of the school of Aguchekikos, should pelt me with his roses. Let the galled jades wince. I may repeat that I have never attacked Totemism; but only the absurd effort to introduce it at any cost, facts or no facts, into Hellas, Egypt, etc.

Anyone who continues to hold that the Greeks either received or invented the majority of the constellation-figures in comparatively late times, cannot fairly pass over the arguments and evidence to the contrary which I have brought forward. The fact is, as I have frequently been informed, very few scholars in recent times have closely studied the history of the constellations, both externally, *i.e.*, with respect to literary references to them, and internally, *i.e.*, with respect to the adaptation of the forms to actual stellar arrangement, and their alteration from time to time. They have relied on opinions of the past, founded upon insufficient evidence and examination, and by no means up to date.

The question of the identification of stars, asterisms,

and constellations, is, I am well aware, one of extreme difficulty in numerous instances. I do not intend to be dogmatic. 'The identification of the Chaldaean constellations,' observes M. Maspero, 'with those of Graeco-Roman or modern times has not yet been satisfactorily made out' (*Dawn. of Civ.*, p. 668, n. 3). Several English writers, *e.g.*, Mr. L. W. King, in his interesting *Bab. Magic and Sorcery*, refer to Jensen as the principal authority on the question. But even with respect to the names of the planets, Jensen has had at last reluctantly to agree that the view of Oppert was, after all, the correct one (*Ibid.* p. 669, n. 6). The earlier investigators of the subject were certain, from the nature of the case, to make many and serious mistakes. Nor is this really anything to their discredit, since nothing short of inspiration could have avoided all error.

On this subject Dr. Morris Jastrow observes : 'While it is probable that two or three of our constellations are of occidental origin, the zodiacal system as a whole is the product of the Babylonian schools of astrology. From Babylonia the system made its way to the west, and through western, more particularly through Greek, influence, back again to India and the distant east. The number of constellations distinguished by the Babylonian astronomers has not yet been definitely ascertained. They certainly recognized more than twelve. Further investigations may show that they knew most of the forty-eight constellations enumerated by Ptolemy' (*Religion of Babylonia and Assyria*, 1898, p. 456). It will be observed that this cautious conclusion of an eminent modern authority is, in all respects, in perfect harmony with the views and suggestions set forth in the present work.

Lastly, I may observe that the subject of revealed religion in general, and of Christianity in particular, does not come within the scope of these pages ; but, remembering that some kindly religionists are always ready to assume that a man who does not obtrude his faith is destitute of any, and to draw divers charitable conclusions accordingly ; and, moreover, not being ashamed of any of my opinions, I would add, in the words of the illustrious savant to whose memory I dedicate this volume, 'Je suis un chrétien . . . Ma foi est assez solidement établie pour ne pas être timide.'

# PRIMITIVE CONSTELLATIONS.

---

## CHAPTER IX.

### The Constellations in the Babylonian Creation-Scheme.

THE learned scribes of Assurbanipal, king of Assur (Assyria), compiled, cir. B.C. 650, from far older sources that account of the beginning of things which is now familiar to students of Assyriology as the *Creation Legend*. The Fifth Tablet of this composition states that some divine personage

‘prepared the mansions of the great gods ;  
He fixed the stars, even the *Lumási*, to correspond to them ;  
He ordained the year, appointing the Signs of the Zodiac (*Mizráta yumazzir*. *Mizráta*=Heb. *Mazzârôth*, *Job xxxviii. 32*) over it ;  
For each of the twelve months he fixed three stars’ (Ap. Sayce).

Prof. Sayce renders *Lumási*, ‘the twin stars’ (*Rel. Anct. Babs.* p. 389), and there are two (Ak.) words *mas*, one meaning ‘twin,’ the other ‘hero.’ As Mr. Sayce notices (*Ib.* p. 49), the earlier meaning of the term, and the one which I prefer to adopt here, is ‘the Sheep of the Hero,’ the Ak. *lu* meaning ‘sheep,’ ‘flocks.’ ‘*Másu*, the “hero” of the astronomers, could only have been the sun’ (*Ib.*). Hence we see that ‘the stars’ are further described as ‘the Sheep of the Hero’ (Vide Vol. I. p. 287); and, as noticed

(*Sup.* I. 16-17), the term *kakkab* ('star'), Ak. *mul*, means either 'star' or 'constellation,' according to the context. The divine Arranger, therefore, fixed 3 'stars' or 'constellations' for each of the twelve months. Which of these terms is intended? Now, as the 12 zodiacal constellations are named, if we read 'stars' we must understand the scribe as saying either that (1) the '3 stars' are 3 stars in each zodiacal constellation, or (2) that the 3 stars are 1 N. of the Zodiac, 1 S., and 1 zodiacal. The first alternative is vastly improbable, and, moreover, would show an incomplete scheme of the heavens; whilst the second would show an inconsistent scheme; for why should we have zodiacal constellations and no others, and merely a mention of separate stars except in the ecliptic? The forming of star groups is a natural process by no means confined to the limits of the ecliptic. On a careful consideration of the passage, therefore, we arrive at the conclusion that the scribe refers to a scheme of 36 constellations, each with its leading star, 12 northern, 12 southern, and 12 zodiacal.

This view of the scheme of the heavens, according to the Creation Tablet, is abundantly confirmed when we turn to the general evidence available. Thus, the historian Diodôros (ii. 30-31), in a passage familiar to Assyriologists, gives a résumé of Chaldaean astronomico-astrology as it existed in his day; and, however fantastical may be his account of the early history of Babylônia, it is very clear that this statement, probably mainly derived from Bêrôsos, is perfectly accurate. The five planets, he says, were called 'Interpreters' ('Ερμηνεῖς, Sum. *Kinmi*); and under, i.e., in subjection to, these, were marshalled 'Thirty

Stars,' which were styled 'Divinities of the Council' (*Βουλαίους θεούς*). 'And they say that the Chiefs of the Divinities' [*I.e.*, of the 'Counsellors' previously mentioned.] are 12 in number, to each of whom they assign a month and one of the 12 Signs of the Zodiac.' Through these 12 Signs sun, moon and planets run their courses. 'And with the zodiacal Circle they mark out 24 Stars, half of which they say are arranged in the north, and half in the south.' In this celestial scheme, therefore, there were 12 protagonistic, central and zodiacal stars, each connected with a Sign of the Zodiac and constituting, so to speak, its capital. The existence of such a head-star, however, did not negative, but rather implied, the existence of the constellation of which it was the head, just as Yorkshire is the natural complement of York. These 12 zodiacal stars were flanked on either side by 12 non-zodiacal stars, thus making up 3 sets of 12, or 36 stars in all. And this number was not arbitrary, for the 12 northern and the 12 southern stars were reduplications of the 12 central and zodiacal stars; and the number of these, again, was not arbitrary, but depended upon the cycles of the moon during the year. In the same way, therefore, that the 12 central stars were respectively the heads of the 12 zodiacal constellations, so were the other 24 stars the heads of the northern and southern constellations respectively. Whatever may have been the practice of the ancient Arabians in the matter, it is perfectly clear that the early Euphrateans grouped stars in constellations, *e.g.*, the instances of the *Wain* (*Sup.* Vol. I. 266) and the *Archer* (*Ib.* 78). The northern and southern constellations were the parnatellons of the zodiacal Signs.

The 'Thirty Stars,' the 'Divinities of the Council,' are those referred to in *W. A. I. V.* xlvi. No. 1 (*Inf. Chap. XI.*). These, as I have shown elsewhere (30 *S.*; *E. S. R.* Pt. v.), constituted the original Euphratean Lunar Zodiac, the parent of the seven ancient lunar zodiacs which have come down to us, namely, the Persian, Sogdian, Khorasmian, Chinese, Indian, Arab and Coptic schemes. The Ak. phrase, 'The Watch of the Thirty' (Stars) is rendered in Sem. Bab. by the *Matstsardti* ('The Signs of the Zodiac.' Vide *W. A. I. IV.* xv. Col. i. 4), inasmuch as the fields of the 30 Stars and the 12 Signs are practically identical.

As Sumero-Akkadian had ceased to be a spoken language for many hundred years prior to the time of Assurbanipal, and as the great mass of archaic stellar lore had been borrowed by the Semites from their Turanian neighbours, it follows that the Euphratean celestial Sphere, the latest edition of which we find in such compositions as the *Creation Legend* above quoted, is the venerable mother of all planispheres, star-maps and astrolabes belonging to Western Asia or to Europe. Three Fragments of this Sphere have been discovered, and are now in the British Museum; and a careful examination of these will further confirm the results arrived at from a consideration of the passage in the *Creation Legend*, as illustrated by the account of Diodôros. The first Fragment, *Sm.* 162, is thus described by Dr. Bezold (*Cat. Cuneiform Tablets K. Collection B. M.* iv. 1385):—

'Portion of the section of a sphere or astrolabe,  $2\frac{9}{16}$  in. by 2 in.;  $\frac{7}{8}$  in. high. The flat side is inscribed with the names of the months, names and figures of certain stars and numbers of certain degrees.' This Fragment was discovered by Geo.

Smith, 'in the palace of Sennacherib,' and is described by him in *As. Discoveries*, 1875, pp. 407-8. Naturally enough at that period he only understood it imperfectly, thinking, *e.g.*, that some of the numbers were 'errors in the Assyrian copy,' whereas, as we shall see, they are all quite correct, a circumstance which warns us that one of the last hypotheses in interpretation should be that the record before us is erroneous. Smith further thought that two stars in *Scorpio* and two in *Sagittarius* were named, which is not the case. The Fragment was subsequently discussed with great ability by Messrs. Bosanquet and Sayce (*Monthly Notices* of the Royal Astron. Soc. Vol. XL. No. 3, Jan. 1880), in connexion with the question of the division of the circle. They translate it:—

'Month <i>Marchesvan</i>	Month <i>Cislev</i>
Star <i>Ligbat</i>	Star <i>Nibatani</i>
140 degrees	120 degrees
Star <i>Girtab</i>	Star <i>Utucagaba</i>
70 degrees	60 degrees'

They do not touch upon the general question of the reconstruction of the Euphratean Planisphere. I read the Fragment in Sum.-Ak. as follows:—

[ <i>Idu</i> ] <i>Apin-dû-a</i>	<i>Idu Gan-gan[na]</i>
<i>Mul Ligbat</i>	<i>Mul Kisal-bat-a-la</i>
140	120
<i>Mul Gir-tab</i>	<i>Mul Ud-gu-dû[-a]</i>
70	60

In Bab.-As. it reads:—

[ <i>Arkhu</i> ] <i>Arakh-samna</i>	<i>Arkhu Kislimu</i>
<i>Kakkab Kalab-mitâti</i>	<i>Kakkab Kisallu-labiru-a-nu</i>
140	120
<i>Kakkab Agrabu</i>	<i>Kakkab Yûmu-nahri</i>
70	60



The translation of the Ak. version is :—

‘[Month]— <i>Opposite-to-the-Foun-</i>	Month—The <i>Very-cloudy.</i>
<i>dation.</i>	Constellation—The <i>Ancient-</i>
Constellation—The <i>Beast-of-death,</i>	<i>altar-below,</i>
140.	120.
Constellation—The <i>Scorpion,</i>	Constellation—The <i>Smiting-</i>
70.	<i>sun-face,</i>
	60.’

The translation of the Sem. version is similar, except that the months are the ‘Eighth-month’ (=Oct.-Nov.) and Kislev (=Nov.-Dec.). The word *ala* is rendered by a usual reading of the characters, *anu*, which makes the epithet difficult to understand; and the name of the fourth constellation is translated by a paraphrase meaning ‘the Day-of-dawn,’ which probably=‘the Dawn-of-day.’ It will thus be observed that the Fragment relates to the 8th and 9th Signs of the Zodiac and months of the year, and to constellations situate in that region of the heavens. The 8th month being called (Ak.) ‘Foundation(*Apin*)-in-front’ (*dāa*), it follows that the foundation or commencement of the Calendar when the Sum.-Ak. month-names were bestowed, was the month opposite to it, namely, that which is now the second, and which was called (Ak.) *Gutsisa* (‘the-Directing-bull’), the Sem. Airu-Iyyar. Our Planisphere thus takes us back by implication to a period prior to B.C. 2540, and when the sun was in *Taurus* at the vernal equinox. In agreement with this, Prof. Sayce observes, ‘In Accadian times the commencement of the year was determined by the position of the star Capella [*a Aurigæ*], called Dilgan, “the Messenger of Light” [and also *Askar*, ‘the Goat,’=Aix, vide Vol. I. 130], in relation to

the new moon at the vernal equinox' (*Herodotos*, p. 402). The constellations *Girtab*, 'The *Scorpion*' (Vide Vol. I. 71 *et seq.*), *Ligbat* ('The *Wild-beast*, vide Vol. I. 110 *et seq.*) and *Udgudûa* ('The *Archer*, vide Vol. I. 77 *et seq.*) have been already referred to. The fourth constellation, *Kisal-bat-ala*, called by the other translators *Nibatānu*, remains for consideration. Now *Nibatānu*, or rather *Zalbat-anu* (Vide Vol. I. 347-8) is a name of *Mars*; and it is clear, alike from the account of *Diodôros* and from the general circumstances of the case, that no planet could form one of the 36 special stars connected with particular months, inasmuch as no planet is specially connected with any particular month in at all the same way as are fixed stars. According to the Fragment before us, we have the stars or constellations of the *Scorpion*, the *Wild-beast* and the *Archer* as appearing in this portion of the heavens, and these three forms are familiar to us in Euphratean constellational art. Hence the inference is irresistible that the fourth star or constellation in question must be some familiar adjoining figure south of the zodiacal cincture.

No other figure except the *Altar* is available, and we therefore have to examine the Ak. name in this connexion. Nor is there any difficulty in the interpretation proposed, for, amongst the various meanings of the first sign is *Kisallu* ('altar.' Vide Sayce, *Syl.* No. 139), a word derived from the Ak. *Kisal* ('altar'), which is compounded of *ki* ('place') + *sal* ('oil' or 'anointing'). 'The altar, so often depicted on Assyrian gems and bas-reliefs, consisted of an upright post or column, sometimes with an extinguisher-like top. . . . These columns corresponded to the "sun-pillars" and *ashêrim*, or symbols of the

goddess Asherah, so frequently alluded to in the Old Testament' (Sayce, *Rel. Anct. Babs.* pp. 410-11). The Ak. *bat* means 'old,' As. *labiru*, and we therefore obtain *Kisal-bat* ('the Old-altar') as the name of the fourth constellation of the Fragment. Although *nu* is the ordinary reading of the last sign in the name, yet it may also be read *la* (Vide Brünnow, *Class. List*, p. 100). The Ak. *ala* will be connected with the Turko-Tatar root *al*, *il* ('below,' 'under,' 'what is beneath'), whence comes the Uigur *ali* ('under'), and similar forms. This root *al* explains the following well-known Ak. words:—*alal* (= *al* + *al*, i.e., *al* intensified), abraded to *ala* (a 'demon'), i.e., a creature which belongs to and comes up from the Under-world; *alad* (= *ala* + *da*, the 'individualising affix'), a 'colossus'; *Alala* ('the Sun-god'), i.e., the great 'spirit' who daily rises from and descends into the Under-world. We therefore find that the full name of this constellation is the *Ancient-altar-below*.

A passage from Arâtos will assist us in appreciating the significance of this appellation:—

'Now 'neath the glowing sting of that huge Sign  
The *Scorpion*, near the south, the *Altar* hangs.  
And this you note but little time aloft;  
For opposite *Bear-watcher* doth it rise.  
And, whilst his course is wholly high in air,  
It quickly speeds beneath the western sea' (*H. D.* 402-7).

Proctor refers to 'the statement of Aratus, quoted from the old astronomers (for every page of the *Phaenomena* shows that Aratus was not himself an observer of the heavens), that Ara is to be seen above the horizon for as many hours as Arcturus remains below the horizon. This relation has not been fulfilled since some 3800 years ago, when the star

Arcturus was  $50^\circ$  from the North Pole and the middle of Ara  $50^\circ$  from the South Pole. If, as is probable, the whole of Ara is meant, then the epoch must be placed four centuries farther back.' These passages illustrate the position of *Ara* as the *Ancient-altar-below*, and confirm what I have shown elsewhere (Vide R. B. Jr., *H. D.* ; *C. E. A.*), namely, that the general celestial description contained in the *Phainomena* is Euphratean in origin. A careful examination of Tab. Sm. 162 thus leads to the highly interesting conclusion that the ancient Euphratean constellations in this part of the Sphere were those of our modern star-maps.

Another fact disclosed by this Tablet is that the zodiacal circle was divided into  $120^\circ$ ; for the *Scorpion* being marked  $70^\circ$  and the *Archer*  $60^\circ$ , the *Bull*, the commencement of the circle, will be  $10^\circ$ , and the *Twins*, its termination,  $120^\circ$ . Similarly, the outer or southern circle had double the number of degrees; the *Wild-beast* being marked  $140^\circ$  and the *Altar*  $120^\circ$ , the constellation below the *Bull* would be  $20^\circ$  and that below the *Twins*  $240^\circ$ . It is further obvious from the foregoing considerations that the Euphratean Sphere must have contained a third, inner, or northern circle, consisting of  $60^\circ$ , viz., of half the number of degrees of the central or zodiacal circle. We thus meet again (Vide Vol. I. 332) with the all-important number 60, and with the zodiacal circle of  $120^\circ$ .

The second of the three Fragments of the Euphratean Planisphere (No. 83-1-18, 608) is thus described by Dr. Bezold (*Cat.* p. 1904):—

'Portion of a sphere or astrolabe,  $2\frac{3}{8}$  in. by  $1\frac{5}{16}$  in.;  $\frac{5}{8}$  in. high. The flat side appears to have been inscribed with the names and figures of certain stars.'

The two star-names to the left are perhaps too much mutilated for restoration ; but, fortunately, the two other star-names are certain. In the inner or northern division we read (Ak.) *Mul Lugal*, (Bab.-As.) *Kakkab Sarru* ('The Constellation of the *King*'), and below, '35.' The outer or zodiacal division contains *Mul Gir[-tab]*, 'The Constellation of the *Scorpion*,' and below, '70.' Each zodiacal division of the Planisphere evidently contained the figure ☉, which, I presume, as alike in the Egyptian hieroglyphs and in our modern almanacs, is the symbol of the sun, in this case connected with each zodiacal sign and its particular stars. The circle in the northern divisions, if it was originally in each, probably indicated the chief star of each.

The constellation of the *King* represents the solar hero and sun-god *Gilgames sarru gitmalu dainu Annunnaki*,<sup>1</sup> 'Gilgames, giant king, judge of the Masters-of-the-Under-world.' As Mr. Pinches has pointed out to me, Marûdûku (Merôdach) is also styled 'King-of-the-gods'; and he and Gilgames are really identical, as two variant solar phases. But this constellation is *par excellence* Gilgames, whose favourite attitude on the monuments is kneeling upon one knee,=*Engonasin*, the Phœnician Harekhal ('the Traveller'),=Gk. Hêrklês, and the Phœnician Mel-qârth ('King-of-the-City'),=Gk. Melikertês. The huge stature of Hêrklês constantly appears in art, witness that most comic of vase-representations, Hêrklês slaying Busîris and his attendants. Agreeably with this identification we find that amongst the names of

<sup>1</sup> From a *Tablet* given in Haupt's *Nimrod Epos*, and translated by Mr. W. St. Chad Boscawen, in the *Bab. and Oriental Record*, February, 1894.

the constellation *Héraklès-Engonasin*, which is just over the *Scorpion*, are *Melicartus* (=Melikertês), *Malica* (=Ph. Melekh, 'the King,'=Bab. *Sarru*,=Ak. *Lugal*), *Palaemon* (=Palaimôn,=Baal-Hamon,=Melqârth), and *Maceris* (=Makar,=Melqârth).<sup>1</sup>

As these two Fragments of the Planisphere each give the *Scorpion*, one with its northern, the other with its southern, paranatellon, we fortunately possess a complete segment of the circle, one-twelfth of the whole (Vide Frontispiece). Apparently the diameter of the whole Planisphere was 7 inches or thereabouts, and the circumference 21 inches.

The Third of the three Fragments of the Planisphere (No. 81-7-27, 94) is thus described by Dr. Bezold (*Cat.* p. 1803):—

'Portion of the section of a sphere or astrolabe,  $3\frac{3}{4}$  in. by  $2\frac{1}{8}$  in.; 1 in. high. The flat side appears to have been inscribed with the names of the months, and names and figures of certain stars.' In Akkadian it reads:—

*Idu As-a-an*

[*Idu*] *Se-ki[-sil]*

*Mul Sila-da-kha-bi*

*Mul (lacuna)*

80

In Bab.-As. it reads:—

*Arkhu Sabâdhu*

[*Arkhu*] *Addaru*

*Kakkab Nun-sûki*

*Kakkab (lacuna)*

80

The translation of the Ak. version is:—

'Month—The *Curse-of-rain*.

[Month]—The *Sowing-of-seed*.

Constellation—The *Fish-of-the-Canal*.

Constellation—(*lacuna*).'

The months are the xith, *Sebat* (Jan.-Feb.), and

<sup>1</sup> Vide Dupuis, *Origine de Tous les Cultes*, iii. 125.

the xiith, *Adar* (Feb.-March); and the Fragment belongs to the southern or outer circle of the Planisphere, which had the month-names marked on it. Eighty is the proper number of degrees for the xith month in this circle. The month-name *Curse-of-rain* alludes to the fact that 'Babylonia is reduced to an impassable marsh by the rains of January' (Prof. Sayce, in *Trans. S. B. A.* iii. 164). The xith month is that of *Aquarius*, and the Story of the Flood was the legend specially connected with it. The Ak. constellation-name preserved on this Fragment supplies an interesting illustration of the Sum.-Ak. language. *Sila* ('canal') + *da* (individualising affix) + *kha* ('fish') + *bi* (enclitic demonstrative) = 'Canal-that-the-Fish-of.' The readings *kha* and *bi* (Vide Brünnow, *Class. List*, pp. 353, 6) are both sufficiently common, and in this case are obvious, inasmuch as the only constellation below *Aquarius* is the *Southern Fish*, into whose mouth the stream (= 'the Canal') from the *Urn* enters at the bright star *Fomalhaut* (= Ar. *Famm-al-Hât*, 'the Mouth-of-the-Fish'). Thus, a careful examination of these three Fragments discloses a perfect harmony and single scheme between them in relation to each other; and also an exact agreement between them and the scheme of constellations which are now in use.

The *Sea-goat*, the *Dolphin*, the *Water-pourer*, the *Southern Fish*, the *Sea-monster*, the zodiacal *Fishes*, the *Sea-horse* (*Pégasos*, the demi-horse, just rising from the 'springs' of Ocean), all belong to that watery part of the celestial sphere which was called 'the Region of Êa' (Vide Vol. I. 84), who reappears westward first as *Dagôn* and ultimately as *Poseidôn* (Vide R. B. Jr., *P.*; *O. N. C.* p. 209; *Sem.* 192; Vol. I. 357),

lord of the Horse, the Dolphin, the Fishes, and the Monsters of the deep.

The Euphratean Planisphere, then, represents the result of a very important part of the idea of the Babylonian Creation-scheme; and we observe that round the outer margin of the Planisphere were marked the names of the months. These, which are well known from other sources, are as follows:—

1. Ak. *Bara-Ziggar* ('the Upright Altar'), Sem. *Nisannu*. March–April.
2. Ak. *Gut-sili* ('the Directing Bull'), Sem. *Airu* (*Iyyar*). April–May. Otherwise *Gut-sisa*.
3. Ak. *Mun-ga* ('the Making of Bricks'), Sem. *Sivānu*. May–June.
4. Ak. *Su-kulna* ('the Seizer-of-seed'), Sem. *Dāzu* (*Tammuz*). June–July.
5. Ak. *Ne-ne-gar* ('Fire-making-fire'), Sem. *Abu*. July–August.
6. Ak. *Ki-Gingir-na* ('the Errand of Istar'), Sem. *Ululu* (*Elul*). August–September.
7. Ak. *Tul-ku* ('the Holy Altar'), Sem. *Tisritu* (*Tisri*). September–October.
8. Ak. *Apin-dāa* ('Opposite to the Foundation'), Sem. *Arakh-samna* (Marchesvan). October–November.
9. Ak. *Gan-ganna* ('the Very-cloudy'), Sem. *Kislīmu* (*Kislev*). November–December.
10. *Abba-e* ('the Cave of the Rising'), Sem. *Dhabitu* (*Tebet*). December–January.
11. *As-a-an* ('the Curse of Rain'), Sem. *Sabādlu* (*Sebat*). January–February.
12. *Se-kisil* ('the Sowing of Seed'), Sem. *Adlāru*. February–March.

Proceeding in the reconstruction of the Planisphere, we will next consider the Signs of the Zodiac. The Brit. Mus. *Tablet* No. 85-4-30, 15 written in the Bab. cuneiform gives the 12 months and a leading star or constellation connected with each. Mr. Pinches dates it 'about 500 B.C.,' and observes that



of course it may be a copy of an earlier tablet. This I do not doubt, as it is quite certain that no one in the reign of Dârayavaush I. invented a scheme of constellations. The Tablet is thus unaffected by Greek influence; and we therefore observe that the division of the ecliptic into 12 zodiacal parts was a genuine Euphratean product. I call this the *Tê Tablet*, because in each case, instead of *Kakkab* ('star,' 'constellation'), the form *tê* ('sign,' lit. 'foundation-stone,' vide Vol. I. 57), 'principal point,' i.e., chief star or Sign, is used. The *Tablet* reads as follows:—

Month.	Star or Constellation.	Meaning of name.
1. <i>Nisannu</i> .	<i>Āgaru</i> .	'The Messenger' (= <i>Aries</i> ).

The Leader of the Signs is the 'messenger' of the new year (Vide Vol. I. 54; as to the meaning of *Agaru* or *Aggaru*, vide Brünnow, *Class. List*, p. 432; Muss-Arnolt, *As. Dict.* p. 15).

2. <i>Airu</i> .	<i>Tēmennu</i> and <i>Alap-samê</i> .	'The Foundation' (=the Pleiad) and 'the Bull-of-heaven' ( <i>Taurus</i> ).
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In *Tablets Sp. 128* and *129*, dated respectively 111 and 123 B.C., the form *Tê-tê* occurs in connexion with this month and Sign. As I conjectured some years ago, and as now actually appears from this Tablet, 'the doubled form shows that two constellations, originally distinct, are included in the *Bull*.'

3. <i>Sivânu</i> .	<i>Rî'u-but-samê</i> and <i>Tuâme rabûti</i> .	'The Shepherd-spirit-of-heaven' and 'The Great Twins' ( <i>Castor</i> and <i>Pollux</i> ).
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As to *Rî'u-but-samê*, Ak. *Sibzianna*, vide Vol. I. 287-8, 338; *inf.* pp. 132-138.

4. *Dāzu.* *Namgaru.* 'The Crab.'

This constellation, the ordinary Ak. name of which is *Allab* or *Allul* (Vide Vol. I. 360), is also called *Nagar-asurra* ('the Workman-of-the-River-bed,' *Ib.* 60). The 'sun-place,' of which it is called a voice (*Ib.* 360),=the ecliptic, and the expression 'Voice' frequently occurs in Ak. star-names, the stars being the 'voices' (proclaimers) of the heaven.

5. *Abu.* *Arū rabū.* 'The Great Lion.'  
 6. *Ululu.* *Sirū.* 'The Ear-of-corn' (= *Spica*).  
 7. *Tisrītu.* *Zibā (lacuna).* 'The Claws.'

*Zibānītu*=Ar. *El-zubēnā* ('The Claws'),  $\alpha$  and  $\beta$  *Librae*.

8. *Arakh-samna* ('The Eighth-month'). *Agrabu.* 'The Scorpion.'  
 9. *Kislimu.* (Ak.) *Papilsak.* 'Winged-fire-head' (= *Sagittarius*. Vide Vol. I. 78).

It is probable that the Bab.-As. name of the constellation was *Qastu* ('the Bow'), Ph. and Heb. *Qesheth*, Ar. *Qaus*, whence the names *Alkus*, *Elkusu*, and *Kaus* for the *Archer*.

10. *Dhabītu.* *Enzu.* 'The Goat.'  
 11. *Sabādhu.* *Kā.* 'The Urn.'

From *Kā* are formed the Ph. and Heb. *Ka-d*, whence the Gk. *κάδος* (Vide Vol. I. 84).

12. *Addaru.* *Riksu.* 'The Cord.'

This star-name is much defaced, but it seems to read (Ak.) *Dur-ki* ('Cord-place'), in allusion to the Cord which fastens the two *Fishes* together (Vide Vol. I. 87).

The above is the Sem. rendering of the Tablet, as in B.C. 500 Ak. had ceased for many centuries to be a spoken language; but the reader will observe that these constellation-names are merely Sem.

renderings of the ancient Ak. names, which read syllabically as follows<sup>1</sup> :—

1. *Ku-ê*, = Sem. *Âgaru*, and *Kusariqqu* ('Ram,' primarily any strong horned animal), whence the late astronomical abbreviation *Ku*.
2. *Dimmenna*, abbreviated to *Tê*, and *Gut-anna* ('Bull-of-heaven').
3. *Sibzianna*, and *Mastalla-galgal* ('the Great-twins'). Astronomical abbreviation *Mas*.
4. *Allab* ('The Hero,' vide *sup.* p. 15). Cf. Turko-Tatar root *al*, 'great,' 'high'; Koibal-Karagass, *Alep* ('Hero'), Altaic *ulu-la*, etc.
5. *Lik*- or *Ur-gula* ('the Great-dog,' i.e., the Lion).
6. *Ab-nam* ('The Proclaimer-of-rain').
7. *Ziba[anna]*. This name probably means 'Life-maker-of-heaven,' and would be applied to the 'Holy [solar] Altar,' the *Kakkab Nidub* ('Lofty-altar,' the original sign of the month (Vide Vol. I. 68-70).
8. *Girtab* ('the Scorpion'). Also called *Gir-anna* ('Scorpion-of-heaven').
9. *Papilsak* (Vide Vol. I. 78-9).
10. *Muna-kha* ('The Goat-fish').
11. *Gula* ('The Urn.' Vide Vol. I. 85). Also called *Gusisa* ('The Directing-urn.' Vide *inf.* p. 67).
12. *Durki* ('The Cord-place').

We have now reconstructed the Planisphere to the extent of the month-names, the names of the Signs of the Zodiac, and the four constellations *Hercules*, *Lupus*, *Ara*, and *Piscis Australis*. We thus obtain an assurance that the principal constellation-figures of the Euphratean celestial sphere were mainly those of our own. I say 'mainly,' for, as already shown, the constellation-names *Draco*, *Ursa Maj.*, *Ursa Min.*, *Cepheus*, *Cassiopeia*, *Andromeda*, and *Perseus* originated on the eastern shores of the Mediterranean (Vide Vol. i. in *voc.*). To complete the formal scheme

<sup>1</sup> On these names generally, vide Vol. I. Cap. iii.

of the Planisphere we still require 11 Northern and 9 Southern Stars or Signs. Although the stellar host is not ranged in regular rows of threes, either of stars or of constellations, we shall have not much difficulty in supplying the majority of these remaining constellation-names from the materials which have been already noticed (Vide Vol. I. Chaps. III., VI.). In treating of the constellations of the Hipparcho-Ptolemy Star-list and of the Homeric Poems the following (Ak.) Euphratean Signs were referred to :—

*Margidda* ('the Long-chariot'), = the *Wain*.

*Sibzianna* ('Shepherd-spirit-of-heaven'), = the *Ploughman*, and at times the star *Bear-watcher*.

*Raditartakhu* ('the Lammergeier'), = the *Lyre* (= *Vultur*).

*Idkhu* ('the Eagle'), = the *Eagle*.

*Gar* ('the Chariot'), = the *Charioteer*.

*Sibzianna* (the Southern Shepherd), = Ningirsu-Dûzi (Tammuz) = *Örion*.

*Lik* ('the Dog,' Sem. *Kalbu*), = *Canis Maj*.

*Pallika*, otherwise *Palura* ('the Crossing-of-the-Water-dog'), = *Canis Min*.

*Tsir* ('the Snake'), = *Caput Hydrae*, or, more specially *Alphard* (*α Hydrae*).

*Imdugudkhu* ('the-Great-storm-bird'), = the *Crow*.

*Gudêlim* ('the Horned-bull'), = the *Centaur*.

To these we now add :—

*Lugal* ('the King'), = *Hercules*.

*Ligbat* ('the Beast-of-death'), = the *Wolf*.

*Kisalbatala* ('the Ancient-altar-below'), = the *Altar*.

*Siladakhabi* ('the Fish-of-the-canal'), = the *Southern Fish*.

The following names, almost certainly constellational, were also mentioned :—

*Maganda-anna* ('The Ship-of-the-canal-of-heaven'), = (probably) *Navis Argo*.

*Lut Tsirna* ('The Bowl-of-the-Snake'), = the *Bowl*.

*Kumar* ('the Dusky'), = the *Sea-monster*.

If we were arranging a scheme of 36 constellations in three rows of 12, we should probably dispose the northern paranatellons of the zodiacal Signs as follows :—

*Ram—Cassiepeia.*

*Bull—Charioteer* (=Ak. *Gar*. Vide Vol. I. 338 ; Ak. *Sugi*. Vide *inf.* p. 114).

*Twins—Cepheus.*

*Crab—Lesser Bear.*

*Lion—Bear* (=Ak. *Margidda*).

*Virgin—Ploughman* (=Ak. *Sibzianna*).

*Claws—Snake-holder*, including the *Snake*.

*Scorpion—Hercules* (=Ak. *Lugal*).

*Archer—Lyre* (=Ak. *Rašitartakhu*).

*Goat—Eagle* (=Ak. *Idkhu*).

*Waterpourer—Horse.*

*Fishes—Andromeda.*

In such an arrangement there would not be included *Perseus*, the *Bird*, and the smaller constellations the *Arrow*, *Dolphin*, *Crown*, and *Triangle*. We, therefore, still require Euphratean paranatellons representing *Cassiepeia*, *Cepheus*, *Andromeda*, the *Lesser Bear*, *Snake-holder*, and *Horse*; and, as of course, the star-groups which form these three human figures may have formed human figures in the Euphratean Planisphere. In the present limited state of our knowledge on the subject, many things are very obscure or perplexing which a single tablet, or even line, might make perfectly clear; but, at the same time, we must do our best with existing materials. To begin with *Cassiepeia*. This star-group lends itself naturally to the formation of a distinct constellation, and most of those who know anything about stellar matters can, on a clear night, point out the W formed by its principal stars. In

*W. A. I.* III. lxix. No. 5, the second column of which, except the word 'Ditto,' has been broken off, we have a list of god-names primarily solar. Now, as I have frequently shown elsewhere, the great majority of the constellation-figures are reduplications of simpler phenomena, a large number of them being solar in origin.<sup>1</sup> And we must also bear in mind that in Euphratean mythology we have a sun-goddess as well as a sun-god. Several of the names in this list are of much interest. Thus we find (l. 63) *Pa-su-du*=Gk. Parsondês,<sup>2</sup> a name explained as *Mi-it-ra*=Mitra (Mithras); and, as noticed (Vol. I. 102), *Maganda-anna* ('Ship-of-the-Canal-of-heaven'), =(primarily) the Sun, and, by reduplication, a constellation, probably *Argo*. In l. 67 we have an ideograph, the pronunciation of which is explained to be *Kas-se-ba*, or possibly *Rak-seba* ('Lady-of-corn') =the Fertilizer, primarily the Sun, as combining male and female potentialities. It would be strictly in accordance with numerous similar examples, if the female-sun-name *Kasseba* had been reduplicated in a constellation-figure; and the Semite would, when it reached him, alter, mould, and understand the name in his own way and according to his own language (Vide Vol. I. 38). Provisionally, therefore, we may accept *Kasseba* as the northern paranatellon of the *Ram* in the Euphratean Planisphere. According to Tab. K. 3464, 18, *Kasbâ*, apparently a goddess, is to be invoked with the goddesses Istar and Nanâ.

In *W. A. I.* II. xlix. 67 mention is made of the

<sup>1</sup> Vide *E.* x., xi.; *Sem.* 176-7; *inf.* Chap. xvii.

<sup>2</sup> Vide the Persian Legend of Nannaros (Ak. Nannar, the Moon-god) and Parsondês (the Sun-god) recorded by Ktésias (Ap. Duncker, *Hist. of Antiquity*, v. 298 *et seq.*).

constellation *Ua-lu-zun* ('the Numerous-flock'); and Hyde remarks, 'Constellatio illa, quae a *Cepheo* denominata . . . ex Orientalium sententiâ est *Al Râi*, i.e., Pastor, et *Ganam*, i.e., *Pecudes*, quae etiam *Olug-Bego* vocantur *Stellae gregis*' (*Hist. Rel. Vet. Per.* edit. 1760, pp. 128-9). 'Cepheus,' says Smyth, 'was an asterism of note among the Arabians as *al-Aghnân*, the sheep; while  $\gamma$  was *Ar-râi*, the shepherd; and  $\rho$  *Kelb-ar-râi*, the shepherd's dog' (*Celest. Cycle*, ii. 500). For *Ar-râi* read *Al Râi*, the *Errai* of old star-maps. 'B Cephei is known as Alphirk, and Ficares, from the Ar. *kawâkib-al-firk*, stars of the flock, which  $\alpha$ ,  $\beta$ , and  $\eta$  were supposed to represent' (*Ibid.* p. 504). Dupuis quotes some old authority that 'les Babylo niens l'appeloient [*Cepheus*] *Phicares*' (*Origine*, iii. 82), i.e., *Firk*. Thus, the earlier Ar. idea of *Cepheus* was that of a Shepherd and his Flock; and here, as in many other instances in the Ar. Sphere we probably see early Bab. influence. The Arabs afterwards adopted the Gk. name under the form *Kikâiis*. We bracket *Cepheus* with the *Twins*, not strictly as a paranatellon, but in default of any other constellation, the region immediately north of the *Twins* and *Crab* being occupied by the dark part of *Auriga*, *Lynx* and *Camelopardalis*. The Shepherd (Ak. *Siba*) is akin to the King, a frequent title of *Cepheus*; and we may provisionally pair the constellation *Ualuzun* with the *Twins*.

Excepting a part of the *Great Bear*, there is no constellation of importance north of the *Crab* until we reach the *Lesser Bear* and the Pole. The 7 stars of *Ursa Min.* are such an exact reduplication on a lesser scale of the 7 stars of the *Wain*, that it is difficult to suppose that the former, as well as the

latter, were not early united in a constellation-figure. The *Great Bear* implies a *Lesser Bear*, and I think that the *Long-chariot* (*Margidda*, *sup.* p. 17) equally implies a *Short- or Small-chariot* (Ak. \**Marturra*). This name I have not yet found in the cuneiform (Vide Vol. I. 269); but, in further illustration of what I have already said respecting the *Bears* and *Chariots* as guardians of the Pole, we may remember that the star  $\alpha$  *Ursae Min.* has always been known as the 'Chariot'-star, the *Alrucaba* of the *Alphonsine Tables*, otherwise *Errucchaba*, *Arrucabatho*, etc. All probability points to the *Chariot* (Bab. *Rukûbu*, Heb. *Rekhev*) as being originally like *Margidda*, the name, not of a single star, but of the constellation. At present, therefore, I would bracket \**Marturra* with the *Crab*.<sup>1</sup>

In Tab. K. 2894, Ob. l. 12 mention is made of the constellation *Nutsirda* ('Prince-of-the-Serpent'), called in Sem. *Namassû* ('the Reptile').<sup>2</sup> 'Its stars' (*kakkabâni-su*) are spoken of, and we may identify it with the *Snake-holder*. In *W. A. I. V.* xlvi. 29 the asterism *Tsîr* ('the Snake,'= $\eta$ ,  $\xi$ ,  $\theta$  *Ophiuchi*) appears as a lunar mansion. There are, of course, various celestial Snakes.<sup>3</sup> *Nutsirda* is also mentioned in l. 44 of the same Tablet, and is explained as 'the

<sup>1</sup> Vide *inf.* p. 189 in voc. *Antasurra*.

<sup>2</sup> Here, as in very many instances, the Sem. equivalent is not an exact translation.

<sup>3</sup> A very interesting Tablet (81-2-4, 224) treats of *Tsîr Anim*, *Tsîru kâsu*, *Tsîr makhkh samî*, *Tsîr Êa*, etc. ('The Serpent of Anu, the Double Serpent, the Great Serpent of heaven, the Serpent of Êa,' etc.). Nabûkudurra-utsur III. erected 'bulls of bronze and huge serpents' at the thresholds of the gates of Bâbîlu (*India House Ins. of Nebuchadrezzar*, Col. vi. 16-18), as daemonic warders and celestial guardians (Vide Vol. I. 361).



god *Sagimu*’ (Vide *inf.* p. 96). It will be remembered that the more important stars and constellations were also regarded as gods.

In *W. A. I. V.* xlvi. 20 we find the asterism *Kakkab Ansu-kurra* (‘The Animal-from-the-East,’ i.e., the Horse) which Prof. Hommel (*Astron. der alt. Chal.* iii. 16) explains as ‘der Pegasus.’ *Ansu-kurra* is certainly a lunar asterism, but there may be two stellar Horses; and, if so, we have here the *Horse* as the paranatellon of the *Water-pourer*. Of course a southern *Horse* no more excludes a northern *Horse* than a southern *Fish* or *Crown* a northern *Fish* or *Crown*. The Pegasus was well known in the art of western Asia (Vide Vol. I. 215, 308; *inf.* p. 48).

In *W. A. I. III.* liii. No. 1, l. 71 mention is made of ‘the-constellation-of-the-Pregnant-woman,’ and ‘the star *Double-eye*’ (Vide *inf.* p. 115). Here, *Eritu* (‘the Pregnant-woman’) a name of Istar (Vide Muss-Arnolt, *As. Dict.* p. 109)—the constellation *Andromeda*. Istar-Aphrodîtê was called Μολιττα (Herod. i. 131), i.e. (Bab.) *Mulidtu* (‘the Bearer’), and she would be the original female figure afterwards called Adâmâth (=Andromeda. Vide Vol. I. 50) by the Phoenicians. The star *Sîbi* (‘Double-eye’) will be *Algol* (Ar.) *Al-Ghâl* (‘the Ogre’) or demon-monster of the waste, =  $\beta$  *Persei*. ‘A star of the second magnitude during two days and thirteen and a half hours, it suddenly decreases, and in three hours and a half descends to the fourth magnitude. Then its brightness regains the ascendant, and at the end of a fresh interval of three hours and a half attains its maximum’ (*Guillemin*, *The Heavens*, 7th edit., p. 307). This darkening of the Ogre’s eye reminds us of the world-wide story of Polyphêmos. The

cause of the apparent changes in *Algol* is the intervention of a dark body between it and the Earth. Thus, the single starry eye is duplicated. The Ak. form of the Bab.-As. *Erîtu* or *Eratu* is probably *Ama* or *Emê*. We may now, therefore, complete the grouping of the zodiacal and northern constellations as follows:—

*Ram*—*Cassiopeia* (=Ak. *Kasseba*).

*Twins*—*Cepheus* (=Ak. *Ualuzun*).

*Crab*—*Lesser Bear* (=Ak. \**Marturra*, otherwise *Antasurra*).

*Claws*—*Snake-holder* (=Ak. *Nutsirda*).

*Water-pourer*—*Horse* (=Ak. *Ansu-kurra*).

*Fishes*—*Andromeda* (=Sem. *Erîtu*).

An arrangement of the southern companions of the zodiacal Signs would probably be as follows:—

*Ram*—*Stream* (=Ak. *Pur-êdin* and *Hid-ili-Ningirsu*).<sup>1</sup>

*Bull*—*Ôrôn* (=Ak. *Sibzianna-Dûzi-Ningirsu*).

*Twins*—*Dogs* (=Ak. *Lik* and *Pallika*).

*Crab*—*Argô* (=Ak. *Maganda-anna*).

*Lion*—*Water-snake* and *Bowl* (=Ak. *Tsir-gal* and *Lut-tsirna*).

*Virgin*—*Crow* (=Ak. *Imdugudkhu*).

*Claws*—*Centaur* (=Ak. *Gudêlim*).

*Scorpion*—*Wolf* (=Ak. *Ligbat*).

*Archer*—*Altar* (=Ak. *Kisalbatala*).

*Goat*—?

*Water-pourer*—*Southern Fish* (=Ak. *Siladakhabi*).

*Fishes*—*Sea-monster* (=Ak. *Kumar, Bisgal*).

<sup>1</sup> *Nin-girsu* ('the Lord-of-the-Bank.' Vide S. 1366, Ob. l. 3, 4) = *Tammuz* (Vide Sayce, *Rel. Anct. Babs.* p. 244). *Hid* means 'river,' cf. *Hid-degel* (*Gen.* ii. 14), = (Ak.) *Hid-dagal* ('Great-river'). The 'River' of *Ningirsu-Tammuz*, therefore, = the Ὠπίωνος ποταμὸς of Hipparchos, = the Ἡπίδαμος, = Sem. *Êrâ-êdinu*. In Tab. Sm. 1510 'the River of the god *Ningirsu*' is mentioned, together with *Allab* (=Cancer) and other stars. Unfortunately the whole of the Tablet is not before me. As to *Pur-êdin*, vide *inf.* p. 96. *Pur-êdin* = (Sem.) *Êrâ-êdinu* ('Strong-one-of-the-Plain'), i.e., the Euphratês.

As regards the *Sea-monster*, in *W. A. I. III. lxix. 75* 'the god (Ak.) *Bis-gal*' ('Great-dragon.' Vide Vol. I. 90) is mentioned; and in *W. A. I. IV. xxi. 65* *Bisgal* is explained as (Sem.) *Mamluv* ('Sea-monster'). As *Bis* also means 'Hero,' in a solar point of view the 'Great-hero' is the Sun; but in a constellational aspect the (star) god *Bisgal*=the *Sea-monster*. As regards the *Goat*, I am unable to say what star or constellation bounded it on the south in the Euphratean scheme. If a star, it may have been  $\gamma$  *Gruis*, for the brighter stars of the *Crane* would be continually beneath the horizon as viewed from Babylônia. We are now in a position to reconstruct the Euphratean Planisphere of 36 stars or constellations in accordance with the *Creation Tablet* and the account of Diodôros; and, after making due allowance for the uncertainties in some instances, we nevertheless obtain a very reliable general result, which appears in full as follows :—

I. The 36 Constellations—Sum.-Ak. Names.

1. <i>Kassêba</i>	$\left\{ \begin{array}{l} Kuê \\ Lulim \end{array} \right.$	$\left\{ \begin{array}{l} Pur-êdin \\ Hid-Ili-Ningirsu \end{array} \right.$
2. $\left\{ \begin{array}{l} Gar \\ Sugi \end{array} \right.$	$\left\{ \begin{array}{l} Gutanna \\ Gutdûa \end{array} \right.$	$\left\{ \begin{array}{l} Sibzianna \\ Dûzi \\ Ningirsu \end{array} \right.$
3. <i>Ualuzun</i>	<i>Mastabbagagal</i>	$\left\{ \begin{array}{l} Lik-udu \\ Pallika \end{array} \right.$
4. $\left\{ \begin{array}{l} *Marturra \\ Antasurra \end{array} \right.$	$\left\{ \begin{array}{l} Nagarasurra^1 \\ Allab \end{array} \right.$	<i>Maganda-anna</i>
5. <i>Margidda</i>	$\left\{ \begin{array}{l} Lik-gula \\ Lik-makh \end{array} \right.$	$\left\{ \begin{array}{l} Tsir-gal \\ Lut-tsirna \end{array} \right.$
6. <i>Sibzianna</i>	<i>Abnam</i> <sup>2</sup>	$\left\{ \begin{array}{l} Imdugudkhu \\ Khusêmakh \end{array} \right.$

<sup>1</sup> Otherwise *Nagarasagga*.

<sup>2</sup> Vide *inf.* p. 27.

7. <i>Nutsirda</i>	{ <i>Ziba-anna</i> <i>Nidub</i>	<i>Gudelim</i>
8. <i>Lugal</i>	{ <i>Girtab</i> <i>Giranna</i>	<i>Ligbat</i>
9. <i>Raditartakhu</i>	{ <i>Papilsak</i> <i>Udgudāa</i>	<i>Kisalbatala</i>
10. <i>Idkhu</i>	<i>Munakha</i>	?
11. <i>Ansu-kurra</i>	{ <i>Gula</i> <i>Gusisa</i>	<i>Siladakhabi</i>
12. <i>Ama (?)</i>	{ <i>Durki</i> <i>Kha</i>	{ <i>Kumar</i> <i>Bisgal</i>

## II. Meanings of the Sum.-Ak. Constellation-names.

1. <i>Fertilizer</i>	{ <i>Messenger</i> <i>Ram</i>	{ <i>Strong - one-of - the</i> <i>Plain</i> <i>River - of - the - god</i> <i>Lord-of-the-Bank</i>
2. { <i>Chariot</i> <i>Chariot-yoke</i>	{ <i>Bull-of-heaven</i> <i>Bull-in-front</i>	{ <i>Shepherd-Spirit-of</i> <i>heaven</i> <i>Son-of-Life</i> <i>Lord-of-the-Bank</i>
3. <i>Numerous-flock</i>	<i>Great-Twins</i>	{ <i>Dog-of-the-Sun</i> <i>Crossing - of - the</i> <i>Water-dog</i>
4. { <i>*Small-chariot</i> <i>High-in-rising</i>	{ <i>Workman - of - the</i> <i>River-bed</i> <i>Hero</i>	<i>Ship - of - the Canal-</i> <i>of-heaven</i>
5. <i>Long-chariot</i>	<i>Lion</i>	{ <i>Great-snake</i> <i>Bowl-of-the-snake</i>
6. { <i>Shepherd-Spirit-</i> <i>of-Heaven</i>	<i>Proclaimer-of-rain</i>	{ <i>Great-storm-bird</i> <i>Bird - of - the - great-</i> <i>seed</i>
7. { <i>Prince-of-the-Ser-</i> <i>pent</i>	{ <i>Life - maker - of</i> <i>heaven</i> <i>Lofty-altar</i>	<i>Horned-bull</i>
8. <i>King</i>	{ <i>Scorpion</i> <i>Scorpion-of-heaven</i>	<i>Beast-of-death</i>
9. <i>Lammergeier</i>	{ <i>Winged-fire-head</i> <i>Smiting-sun-face</i>	<i>Ancient-altar-below</i>

10. <i>Eagle</i>	<i>Goat-fish</i>	?
11. <i>Horse</i>	{ <i>Urn</i> <i>Directing-urn</i>	<i>Fish-of-the-Canal</i>
12. <i>Pregnant-woman</i>	{ <i>Cord-place</i> <i>Fish</i>	<i>Dusky-one</i> <i>Great-dragon</i>

## III. The 36 Constellations—Bab.-As. Names.

1. <i>Tsalamu</i>	{ <i>Āgaru</i> <i>Lulimu</i>	<i>Ērû-êdinu</i>
2. <i>Narkabtu</i>	{ <i>Kusariqu</i> <i>Alap-samê</i>	{ <i>Ri'u-but-samê</i> <i>Dâzu</i>
3. <i>Tsêné</i>	<i>Tuâme-rabâti</i>	{ <i>Kalbu</i> <i>Kalab-mê</i>
4. { <i>*Rukûbu-zakhru</i> <i>Tsuppur-sa-libbi</i>	<i>Namgaru</i>	<i>Elipp-nagabi-samê</i>
5. <i>Rukûbu-sêru</i>	<i>Arû-rabâ</i>	{ <i>Tsirû-rabâ</i> <i>Karpat-tsîri</i>
6. <i>Ri'u-but-samê</i>	<i>Sirû</i>	{ <i>Zû</i> ('Storm - wind,' 'Vulture') <i>Ramânû - ikabbid</i> ('Ramân - is - ter- rible')
7. <i>Namassû</i>	<i>Zibânîtu</i>	<i>Kusariqu</i>
8. <i>Sarrû</i>	<i>Aqrabu</i>	<i>Kalab-mutâni</i>
9. { <i>Karib-Barkhâti</i> ('Antelope - at- tacker')	<i>Qastu</i> (?)	<i>Kisallu-labiru</i>
10. <i>Nasru</i>	<i>Ēnzu</i>	?
11. <i>Sisû</i>	<i>Kâ</i>	<i>Nûn-nagâbi</i>
12. { <i>Eritu</i> <i>Mulîdtu</i>	{ <i>Riksu</i> <i>Nînu</i>	{ <i>Kumaru</i> <i>Mamluv</i>

## IV. The 36 Constellations—Gk. Names.

1. <i>Kassiopeia</i>	<i>Krios</i>	{ <i>Ēridanos</i> <i>Potamos</i>
2. <i>Hêniochos</i>	<i>Tauros</i>	<i>Orîôn</i>
3. <i>Kêpheus</i>	<i>Didymoi</i>	<i>Kuôn</i>
4. <i>Arktos Oligê</i>	<i>Karkinos</i>	<i>Argô</i>

5.	<i>Arktos Megalé</i>	<i>Léon</i>	{ <i>Hydra</i> <i>Krêtér</i>
6.	<i>Boûtés</i>	<i>Parthenos</i>	<i>Korax</i>
7.	<i>Ophiouchos</i>	<i>Chelai</i>	<i>Kentauros</i>
8.	{ <i>Engonasin - Héraklès</i>	<i>Skorpios</i>	<i>Thérion</i>
9.	<i>Lyra</i>	<i>Toxotés</i>	<i>Thytérion</i>
10.	<i>Aetos</i>	<i>Aigokerós</i>	?
11.	<i>Hippos</i>	<i>Hydrochoös</i>	<i>Ichthys Notios</i>
12.	<i>Andromeda</i>	<i>Ichthyes</i>	<i>Kétos</i>

Such, then, is the general result of the reconstruction of the Euphratean Planisphere of 36 constellations, each headed by a leading star, and arranged in three circles of 60°, 120°, and 240°, as indicated by the most authoritative Euphratean version of the Creation Legend fortunately preserved by the scribes of Assurbanipal.

The star *Abnam* (*Sup.* p. 16) is rendered by Mr. Pinches 'the Watering-Channel,' and is equated with the Sem. *Sirā* (Vide Brünnow, *Class. List*, p. 170). I prefer the rendering 'Proclaimer-of-rain,' and can illustrate this peculiar appellation of the stars of *Virgo* as follows:—

'Fírúzábádí, in the Kámús, mentions another name for Simák [= *Spica*] and Al Auwa [= the thirteenth moon station,  $\beta$ ,  $\eta$ ,  $\gamma$ ,  $\delta$  *Virginis*], Al-anharán, the two rivers, on account of their rising being accompanied by rains' (Smyth, *Cycle of Celest. Objects*, ii. 296). So Dupuis, 'Ce sont des astres humides, et qui versent beaucoup d'eau' (*Origine*, iii. 54).

In *W. A. I.* III. lvii. No. 5, l. 5, 7 mention is made of the star *Rim-abnam*, which=*Abnam*. *Rim* = *pukh* ('prosperous.' Vide Brünnow, *Class. List*, p. 210), an epithet of *Spica* (Vide *inf.* p. 84).

## CHAPTER X.

### Constellation-Subjects in Euphratean Art.

MODERN researches have revealed to us an important fragment, although only a fragment, of Euphratean art, and just as Hellenic coin-types show us constellation-subjects in astonishing numbers and in remarkable variety, so similarly do these representations, including actual and obvious constellation-figures, appear plentifully in the surviving remnants of the art of Babylônia. Without attempting any exhaustive treatment of Euphratean art in this connexion, it will suffice for my present purpose to notice a number of illustrative instances chiefly supplied by boundary-stones, contract Tablets, and cylinders. The reader will observe the general harmony in the matter between Euphratean literature and Euphratean art, *e.g.*, as the Signs of the Zodiac appear in the former, so likewise are they found in the latter. I do not intend to enter on many doubtful and difficult points connected, but merely to indicate clearly the general result. Amongst other instances of constellation-subjects on the monuments we have—

I. *Stone of Nabûkudurra-utsur I.*, not later than B.C. 1150 (Figured in *W. A. I. V.* lvii., etc.). The representation on the Stone is divided by lines into 6 compartments, one above another. The first or uppermost compartment contains the Crescent-moon in the centre, with the Sun on one side of it and the

planet *Venus* on the other (Vide *inf.* p. 32). With its head over the Crescent-moon and its body stretching down by the side of the compartments to the 5th of them, is a Great-serpent (=primarily, the Milky-way, and (2) *Hydra*, vide Vol. I. 105). The 2nd compartment contains 3 Altars, each surmounted by a conical stone (Cf. the *Triangle*, Vol. I. 50-52), and each placed under one of the above-mentioned heavenly bodies. The 3rd compartment contains a Demi-monster (cf. *Ligbat-Thérion*, *sup.* p. 5), whose body is half concealed by a kind of altar; and a Demi-goat (= *Capricorn*), similarly half concealed. The 4th compartment contains (1) the head and upper part of the body of a crested Snake, which exactly corresponds to the head and upper part of *Ophis* as held by *Ophiouchos*; (2) a Twy-headed-dog with serpentine body, which is not a constellation-figure but a symbol of Tutu, the Death-god, and which reappears westwards on coins of Kyzikos (Vide Vol. I. 177); (3) a Horse's head and neck (Cf. *Hippos*) upright on a sort of altar; and (4) a Crow or Raven (Cf. *Korax*) perched upon an upright stone. The 5th compartment contains the figure of the King seated, with a kind of Gryphon-greyhound by his side. In front of him stands his Guardian-genius, human to the waist, and drawing a bow, with the body and tail of a scorpion and the legs and feet of a bird of prey, in fact a combination of *Toxotés*, *Skorpios*, and *Aetos*, the whole forming what Classic art would style a *gryllus*. These symbolical combination-figures, e.g., man-headed bulls or lions, form perhaps the most familiar feature in Euphratean art. The potencies of the Archer-, Scorpion-, and Eagle-gods are united in the King's protector. The 6th and last compartment



of the Stone shows (1) an Ox, Bull (Cf. *Taurus*), or Cow, *couchant*, above whose back appears a huge and conventionally drawn Ear-of-corn (= *Stachys*, *Spica*); (2) a Tortoise (= *Cancer*); (3) a Scorpion (= *Scorpius*); and (4) a Lamp on a pedestal, almost grasped by the claws of the Scorpion (Vide Fig. x. p. 233). Of this last combination I have treated at length in *Z*, and in *C. E. A.*, sec. viii., and will, therefore, only here remark that amongst the technical names of the Signs of the Zodiac we find (Ak.) *bir* applied to the 7th Sign. Upon this Strassmaier observes that *bir* ('die alte Form für *ud*') = *nûru* ('light'), and that in fitting the Bab. constellation-figures on the monuments to the Signs of the Zodiac we have 'die *Lampe* als *Nûru*' (*Astron. aus Babylon*, p. 171). In the *Lamp*, then, we have one variant form of the original 7th Sign (Vide Vol. I. 68-71).

The Stone of Nabûkudurra-utsur I. is a Charter of freedom and certain privileges bestowed by him on a friendly city, but we are not here concerned with the historical aspect of the matter. We observe that these uranographic Euphratean Charter- and Boundary-Stones,—incorrectly called by MM. Epping and Strassmaier 'Thierkreise,' for they are *not* Zodiacs,—display combinations of constellations and other figures, *e.g.*, sun and moon, portrayed in their character of daimonic guardians, and not according to astronomical position. The figures are generally called, and with considerable although not absolute correctness, 'emblems of the gods.' From their thrones on high the host of heaven look down with myriads of burning eyes, and behold the evil man removing his neighbour's landmark that he may add field to field, and are prepared to punish and avenge.

The stars are gods, and, to a considerable extent, the gods are stars.

The Ox or Bull with the Ear-of-corn is a combination which frequently appears on the monuments (Vide *C. E. A.*, Fig. vii. p. 11. From an unpublished Tablet in the Berlin Museum). A Cylinder of black marble in the National Library, Paris (Figured in Perrot and Chipiez, *Hist. of Art in Chal. and As.* ii. 145), shows two Oxen, one behind the other, with the great Ear-of-corn behind each. MM. Perrot and Chipiez remark, this 'cylinder which, from its style, M. Ménant does not hesitate to ascribe to the first Chaldaean monarchy, represents two oxen in a field of wheat.' It is quite erroneous thus to interpret cylinder scenes, which, like the scenes on Greek vases, are very rarely taken from the incidents of actual life. Oxen were not turned into high-standing wheat-fields in ancient Babylônia any more than at present. There is only one Ear-of-corn to each Ox, which, as a delineation of a heavy Bab. wheat crop, would be absurd; and the duplication of the Ear-of-corn and of the Ox is merely a matter of pattern, and not intended to represent numbers. No one, I presume, would say that the Bull or Ox with the Ear-of-corn on the Stone of Nabûkudurra-utsur, represents an agricultural scene; and the same design, when found elsewhere, must be uniformly interpreted. This same Cylinder is also reproduced in Maspero, *Dawn of Civilization*, p. 766, and styled 'the Farm Oxen.' This aspect of the matter is that off-hand way of looking at things which first suggests itself to the mind, and which people are fond of dignifying as 'the common sense view.' However, in dealing with symbolism, which, go back into the past as far as we may, we

still find in full force, it is rather uncommon sense which is required. The Host of Heaven, as depicted on boundary stones, etc., are naturally generally headed by representations of the sun and moon, and a third star-figure which is usually supposed to portray the planet *Venus*. Thus we find 'c. 1100 B.C. Upper part of a black boundary stone. *Nippur*. Upper section: Disc of the sun, crescent, *Venus*' (Hilprecht, *Bab. Ex. of the Univer. of Pen.* 1896, Vol I. Pt. ii. p. 67, Pl. xxv. No. 69). In this representation the solar star is half enclosed by the crescent,—the Sun is in the arms of the Moon, a fruitful origin of mythological stories about sun-nurturing goddesses. By its side is the second eight-rayed star, of nearly the same size, which may possibly also represent the sun as distinct from and independent of the moon, although the opinion that it symbolises Istar-*Venus* is very likely correct.

Thus, on this Stone of Nabûkudurra-utsur, which is a usual specimen of the kind, we find representations of an *Altar*, *Triangle*, *Wild-beast*, *Serpent*, *Goat*, *Snake's head*, *Horse*, *Raven*, *Bull or Ox*, *Ear-of-corn*, *Tortoise* (=Cancer. Vide Vol. I. 207-11), *Scorpion*, *Lamp* (=lighted *Altar*), *Archer*, and *Dog*. Also two Dogs' heads, united together on the body of a snake (demi), and rather reminding us of the close link between *Sirius* and *Procyon*. In short, every figure upon the Stone, except those of the King, Sun, Moon, and *Venus*, is either a constellation-form or else is closely akin to one. Such a proportion excludes accident, and implies a general principle of representation.

II. *Stone of Marûdâku-Balâdan I.*, cir. B.C. 1325 (Figured in Geo. Smith, *As. Dis.* p. 236, etc.). This

'large white stone, about 3 feet high,' bears an inscription 'of 115 lines giving an account of a field of which this was the boundary or memorial stone,' and which had been given by the king to one of his servants for State services. In Col. iii. curses are invoked on any remover of the Stone, 'the gods Anu, Bel and Êa, Ninip and Gula, these divinities, and all the divinities on this stone tablet whose emblems are seen, violently may they destroy his name.' We may know the divinities of the Signs to some extent from the divinities of the months, which were as follows:—Nisannu, Anu and Bîlu; Airu, Êa; Sivânu, Sin (the Moon-god); Dûzu, Ninip; Abu, Ninkigal ('Queen-of-the-mighty-land,' i.e., Hadês), Sem. Allat ('the Unwearied'); Ululu, Istar (= *Parthenos*); Tisrîtu, Samas; Arakh-samna, Marûdûku; Kislimu, Nirgal; Dhabîtu, Papsukala (Vide R. B. Jr., *L. K. O.* p. 33); Sabâdhu, Ramânu; and Addaru, 'the Seven Great-gods' (= Ph. Kabîrîm). The pictorial portion of the stone is divided into three compartments, the uppermost of which contains representations of the Crescent-moon, Sun, *Venus*, a *Lamp*, *Scorpion*, *Bird* of some kind, perhaps an *Eagle*, *Dog*, Dog-headed-demi-snake, *Demi-snake* with a nondescript head, and lighted *Altar*. The centre compartment contains a *Bird* (*Eagle* or *Raven*); Ox, *Bull*, Cow, or Calf, *couchant*, surmounted by the *Ear-of-corn* (the Istar symbol); a *Wild-beast* of some kind; another nondescript creature of somewhat similar type; and a *Ziqqurât* or *Altar-temple-tower* in stages (Vide Vol. I. pp. 69, 327), a symbol of Samas, the Sun-god, lord of the 7th month. The 3rd compartment contains a *Great-serpent*, *Goat-fish*, *Wild-beast*, apparently winged, and two other dubious figures. Thus there is a

general, although not an absolute, agreement between this Stone and that of Nabûkudurra-utsur, showing the widespread use on monuments of the kind of a certain list of well-known symbols or emblems, nearly all of them constellation-figures.

III. *Stone from Bâbilu recording sale of land.* Cir. B.C. 1100 (Figured in *W. A. I.* III. xlv. No. 1). This circular black Stone shows near its apex the Moon both full and crescent, the crescent being a segment of the full orb; the Sun, and *Venus* (if it be *Venus*), the patterns of both being almost identical with those on No. II. The *Great-serpent* is drawn right across two-thirds of the circle, with its tail hanging down outside. As I have observed elsewhere (*Academy*, Jan. 9, 1892, p. 43), this position very fairly represents the *Γαλαξίας* in November, when it stretches overhead between *Gemini* and *Auriga* on one side, and *Orion* and *Taurus* on the other, through *Perseus*, *Cassiopeia*, and *Cygnus* above us, descending westwards through *Aquila*. I have already referred to the connexion between *Hydra* and the *Via Lactea* (Vide *sup.* p. 29). Near the *Serpent's* head appear the *Scorpion* and *Lamp*; whilst in the outer circle, with several other figures, occur the two *Dogs' heads* (Vide *sup.* p. 32), the *Dog*, *Eagle*, *Raven*, *Wild-beast*, *Ear-of-corn*, *Tortoise*, fire (planetary) *Altars*, and a *Yoke*. This latter object appears more than once in the Sphere. Thus the *Ecliptic* is regarded as a yoke thrown across heaven; and *Nîru* ('the Yoke') was apparently a popular name for the *Goat-fish* (Vide Vol. I. 81).

IV. *The like* (Figured *Ibid.* No. 2). On this are shown the Moon (as in the last instance), Sun, *Venus*, two *Dogs' heads* (Cf. *Sirius* and *Procyon*), the *Dog*,

*Eagle, Raven* (the birds, as frequently, are drawn in a conventional manner), *Wild-beast, Ear-of-corn, Scorpion, Lamp, and Demi-goat*. The *Great-serpent* stretches along the circumference of half the circle, a position which exactly shows the Γαλαξίας in May, when it nearly skirts the horizon from east, by north, to west, disappearing in the west below *Canis Minor*. Alike in Nos. III. and IV. the Hyena is shown, which we also meet with in the lunar Zodiac (Vide *inf.* p. 68).

V. *The Michaux Stone* (Figured in Maspero, *Dawn of Civ.* pp. 762-3 ; described and translated by MM. Oppert and Ménant in *Records of the Past*, ix. 89 *et seq.*). An ovoid basalt stone, 17 inches in height and 24 in circumference, found by M. Michaux in 1800 near the ruins of Ktésiphôn, and now in the Cabinet des Médailles, Paris. On the top are represented the Crescent-moon and the Sun ; then follow four *Altars* and the kneeling *Demi-goat* (Vide No. IV.), two more *Altars*, a *Triangle*, the *Wild-beast*, the *Hyena, Scorpion, Eagle, Raven, Lamp, Dog, Great-serpent*, and 'a downward pointed *Arrow*,' with several other figures. The Inscription relates to a field near 'the town of Kar-nabu,' and contains the usual imprecations upon anyone who shall interfere with the Boundary-stone, etc.

VI. *Stone of the House of Ada* (British Museum). The general design of the figures is the same as that of No. V., the *Altars, Eagle, Raven, Goat, Dog, Scorpion, Great-serpent*, and *Wild-beast* being shown, and also 'a kind of *Lyre*.'

VII. *Another British Museum Boundary-stone*. This stone shows the (1) *Dog* (Vide Fig. xiv. p. 239) in the exact position described by Arâtos, *i.e.*, *salient*, 'standing on both hind feet' (*H. D.* 327). This atti-

tude has ever since been preserved in good delineations of the constellation-figure when grouped with others. Thus, the *Dog* so appears on the Farnese Globe, in Cicero's *Arâtos*, in the Planisphere of Geruvigus, in the interesting sheet of constellation-figures appended by Sherburne to his edition of Manilius published in 1673, in the Oxford *Arâtos* of 1672, in Flamsteed's *Atlas*, and generally in modern representations. (2) The kneeling *Bull*, *Cow*, or *Calf*, with (3) the *Ear-of-corn* (Figured in *H. D.* p. 82). (4) The *Water-snake* (Figured in *Ib.* p. 83), near which (5) the *Scorpion*. (6) Head and neck of crested *Snake* (Cf. *Ophis*; vide No. I.). (7) *Tortoise* or *Turtle* (Vide No. I.). And (8) a winged armless human figure with serpentine legs interlocked. An Etruscan 'figure placée sur chacune des faces d'un socle triangulaire, de bronze, qui a dû servir de base à un candélabre' (Lajard, *Culte de Vénus*, Pl. xxiv. No. 15) is the only other similar instance known to me. This singular design reminds us of the Ophiôneus-Boreas myth (Vide Vol. I. 304-5).

VIII. *Composite Creatures*. These, like the Chimaira (Vide Vol. I. 216), are often formed or partly formed of constellation-subjects, *e.g.*, (1) the *Scorpion-Archer* in No. I. (2) An armless winged human-headed scorpion-bodied creature with feet something like lions' paws (From a Boundary-stone). (3) The Fish-god, Éa-Ôannês. (4) The primeval monsters mentioned by Bêrôsos (*Chal.* i. 4), such as hippocentaurs, man-headed bulls, satyrs, fish-tailed dogs, dog-headed horses, horse-headed fish (sea-horses), etc. (5) Various forms of gods and genii, *e.g.*, man-headed, winged bulls; man-headed, winged lions; winged bulls, eagle-headed human figures, men with horns, tails

and hoofs, etc. Amongst this division may be included divers evil genii, *e.g.*, those with leonine heads, human bodies, and birds' feet, the Tiâmat-monster, the Dragon-of-the-deep, the Demon of the south-west wind with deformed human body, goats' horns, wings, and birds' claws. (6) Fantastic animals, some more or less symbolical, others perhaps chiefly the outcome of sportive fancy. Such are (a) the Gryphon, a winged eagle-headed lion; (b) the Winged-horse (*Pégasos*. Vide Perrot, *Hist. of Art in Chal.* ii. 171, Fig. 89); (c) the Unicorn, whose combat with the Lion (Vide R. B. Jr., *U.*), is duly shown on the monuments (Vide Perrot, *Hist.* ii. 165, Fig. 83); (d) a composite Creature (National Library, Paris; figured in Perrot, *Hist.* ii. 168, Fig. 87) with a bull's head, ram's horns, body, tail, and fore paws of a lion, hind legs, feet, and wings of an eagle, and mouth of an unnatural formation. With the connected symbolism in all these instances we are not here concerned. I merely note that in the case of the Composite Creatures, as in that of the Boundary and Monumental Stones, constellation-subjects on the whole greatly predominate.

IX. *Ordinary representations of animals, etc.* As the Homeric Poems and the Greek Coin-types contain all or almost all of the constellation-subjects (Vide Vol. I. chaps. V. VI.), so does ordinary Euphratean art. The *Ram*, *Bull*, *Crab*, *Lion*, *Virgin* (Istar), *Altar*, *Scorpion*, *Archer*, *Goat*, *Urn*, *Urn-bearer*, *Fish*, *Horse*, *Serpent*, *Dog*, *Crow* or *Raven*, *Bowl*, *Centaur*, *Ship*, *Wild-beast*, *Charioteer*, *Lyre*, *Lammergeier*, *Eagle*, *Bird*, *Kneeler*, *Wain*, *Ploughman*, *Crown*, *Triangle*, *Arrow*, and *Hare* all appear upon the monuments, under which term I do not here include seals and cylinders. Specific references are unneces-



sary, as we have only to turn to the familiar works of Layard, Rawlinson, Perrot, Maspero, and others to find representations of all these constellation-subjects. The god Ningirsu (= *Ortôn*, vide Vol. I. 93) appears on a brick from Lagash (Telloh), of which place he was the patron-divinity (Vide De Sarzec, *Découvertes en Chaldée*, Pl. xxii. No. 5). The *Bear* appears on a bronze bowl (Vide Canon Rawlinson, *Anct. Mons.* i. 528).

X. *Bronze Plaque showing the four divisions of the Universe* (Figured in Perrot, *Hist. of Art in Chal.* i. 351, etc.). The divisions of the Plaque are separated by bands, and the first and highest represents Heaven. It contains the familiar emblem of the Winged-disk enclosing a human figure, which the Assyrians appropriated to Assur; the Sun and Crescent-moon, Seven Stars (which possibly=the *Wain*), and several other symbols of the celestial powers. The second division, which represents the Air, is occupied by 7 genii, 5 of whom are lion-headed and the other two have heads of some other animal or bird. They are the Powers of the Air and follow each other in line, each with the right hand uplifted and the left held down. In the third division, which represents the Earth, a dead body is shown on a bier, at the head and foot of which stands a Fish-god (the *Ôannês* type). Behind one of these, two lion-headed genii are shaking hands, and behind one of the latter stands another figure apparently bull-headed. The last, lowest, and largest division represents the Under-world. At the bottom of it flows the river of death, in which 5 fish appear. On the left bank of the river, which is indicated by a raised line, grow shrubs or reeds, three of which are shown. 'A hideous monster

advances on the river bank. Its semi-bestial, semi-human head is flat and scarred, with a broad upturned nose and a mouth reaching to the ears. The upper part of its body is that of a man, although its skin is seamed all over with short vertical lines meant to indicate hairs. . . . His tail is upturned, his feet are those of a bird, and his wings show over his left shoulder. . . . A small boat glides down the stream' (Perrot, *Hist. of Art in Chal.* i. 352-3). So far we have exactly an earlier delineation of the Under-world as painted by Polygnôtos in the Leschê at Delphoi (Vide Paus. X. xxviii.) :—

'The dim stream of Acherôn, with its reeds  
And gliding ghosts of fishes indistinct.

Nigh the dim river, gnashing hateful fangs  
Crouches the fiend Eurynomos. He eats,  
The Delphians told us, flesh from dead men's bones.'

(R. B. Jr., *Tellis and Kleobeia*).

In the boat on the river is a Horse, its right fore-leg bent, as if with the weight of the monstrous goddess Allat, queen of the Under-world, who kneels upon one knee on its back. She has the head of a lioness and lion-cubs spring towards her breasts, one on each side. Her body is like that of a huge hairy ape and she has eagles' feet; in each hand she grasps a large snake by the throat, and so is an *Ophiouchos*. M. Maspero (*Dawn of Civ.* p. 691) calls each snake 'a real animated javelin.' In front of the goddess and in one corner of the division is shown a group of objects consisting of a horse's foot, bottles, etc., which are supposed to be 'funeral offerings.' Lastly, between the legs of Allat a Scorpion is dimly shown. Here we have an illustration of the pre-constellational aspect

of the Snake and the Scorpion, as connected with death and darkness. A kind of monster, the *Usum-gallu* ('Monster - viper,' King; 'Solitary - monster,' Sayce) was supposed, like Eurynomos,

'Sarkophagos, corruption's hideous tooth,  
Which fastens on these vestures of decay.'

(R. B. Jr., *Tellis and Kleobeia*),

to devour the corpses of the dead (*W. A. I.* II. xix. No. 2, Rev. l. 12). In this scene, as so frequently in Classic art, the Horse is a creature connected with death and the grave.

We next approach the highly important group of Cylinders, and will first take zodiacal subjects (Vide Lenormant, *Les Origines*, i. 237-8).

XI. *The Zodiac—Aries*. Lenormant gives the following instances of the zodiacal *Ram* or *Ibex* from Lajard, *Culte de Mithra*, viz., Pl. xvi. 1; xvii. 6; xxvii. 1; xxix. 6; lii. 6; liv. A 12. Whilst I by no means dispute this view, I think it is not exhaustive of the facts of the case. As in Ak. times the commencement of the year was regulated by the position of the *Goat-star* (*Capella*) 'in relation to the new moon at the vernal equinox' (Sayce, *Herod.* p. 402); so some of these representations of the *Ibex-ram* in all probability originally referred to *Capella*, and were transferred to *Hamal* ('the *Ram*,' a *Arietis*) when in process of time that became the leading star of the year (Vide R. B. Jr., *Z.* p. 4). In *W. A. I.* III. lii. No. 3, Rev. l. 8, we read, *Mitkharti ris sanâti sa kakkab Dilgan* ('The appearance at the beginning of the year of the star *Messenger-of-light*'). This Lenormant (*Les Origines*, i. 263) regards as a *Arietis*, and so perhaps it may ultimately have been when the year began in *Aries*; but originally it would be *Capella*,

in connexion with a year-commencement in *Taurus*. Anyone who has studied the Cylinders will have no doubt respecting their general character, and will have no difficulty in recognizing various constellation-figures. Thus, we find frequent representations of Sun, Moon, and the Seven Stars (perhaps—the *Wain*); of the Sun-god and the Moon-god, of the Air-god (Ak. Mermer, ‘the Very-glorious,’ Sem. Ramānu, ‘the Exalted’), and of various other divinities of the heavens, standing with and between certain celestial symbols, emblems, and forms, amongst which it is easy to recognize the Signs of the Zodiac and various other constellation-figures. Thus in Lajard, Pl. xvi. 1 above referred to, we have at one end of the cylinder (1) the 7 Stars, (2) below which, a large 6-rayed Star, (3) below which, an animal rudely drawn, Ibex, Goat, or Ram, apparently standing on a star; and the symbol of *Capella*, *Hamal*, *Aries*, or of all of them in (historical) succession. The *Ibex-ram* is also well shown in Lajard, Pl. xxxvi. 11, where it appears in a scene with several other constellation-subjects, amongst which are Istar (*Virgo*) with her *Ear-of-corn* (*Spica*), the *Eagle*, etc. In Pl. lvi. 8 the *Ram* appears with the *Bull*. Pl. xxxv. 7 presents a curious combination of Signs. Ramānu (*Aquarius*) holds an *Urn*, from which water flows in a double stream. By one of the streams are the two *Fish*. Two human figures (*Gemini*) of the Gilgames-type stand together in corresponding attitudes over an *Eagle*. Next comes Gilgames bearing over his right shoulder a *Crab* or *Turtle* at the end of a stick, and holding in his left hand a pair of *Fish*. Next stands the *Ibex-ram*, with reverted head, an attitude usual to *Aries*, which is now, as in past ages, so depicted. To pretend

to give an exhaustive explanation of such a combination would, considering our present state of knowledge or ignorance, be absurd. What is obvious, is that here, as in numerous other examples, we have nothing but divine personages and constellation-subjects; and we may provisionally regard the design as representing the Sun in connexion with the Signs, whilst the details are probably based on some archaic legends, the real meaning of which had long been forgotten, such as the Kretan myth of the contest of Hêraklê with *Crab* and *Hydra* (Vide Vol. I. 145).

XII. *Taurus*. Cylinder representations of the *Bull* are very numerous. The first group consists of those which show him standing or crouching with the Air-god on his back, or led by the Air-god, or by some other divinity (Vide Cullimore, *Oriental Cylinders*, Nos. 97, 107; Lajard, *Culte de Mithra*, Pl. xvi. 1, 2, 3; xviii. 1, 2). This combination forms the prototype of the description of Arâtos, 'the horned *Bull* fallen near the *Driver's* feet' (*H. D.* 167). In the second group of representations the *Bull* is simply delineated as a constellation-figure in the heavens (Vide R. B. Jr., *Z.* Figs. 2, 3, 4; Lajard, Pl. xxxvi. 5, lviii. 6, where 'the *Bull's* crouching legs,' *H. D.* 517, are well shown).

XIII. *Gemini*. The *Twins*, generally a pair of small human figures, appear repeatedly. The fact that the pair originally represented sun and moon is shown by the two figures being frequently drawn one above the other, head to head or feet to feet (Vide Fig. vii. p. 231), i.e., when one is up, the other is down. The moon rises as the sun sets (Vide Cullimore, *O. C.* Nos. 65, 70, 95; Lajard, *M.* Pl. xxvi. 1). In *Z.* Fig. 7, p. 8, I have shown how this treatment of the

figures was adapted to the stars of the constellation *Gemini*. It affords an excellent illustration of the way in which constellation-figures came into existence. In Lajard, *M.* Pl. xl. 9 ; xlix. 7, etc., the Pair stand side by side. In Pl. liv. B 7 they embrace.

XIV. *Cancer*. The *Crab*, a variant of the *Scorpion* (Vide Vol. I. 60, 210), is frequently figured in a somewhat similar manner. It appears in Lajard, *M.* Pl. xxxv. 7 (*Sup.* p. 32), and liii. 4. In Pl. liii. 3 it is difficult to say whether two *Crabs* or *Scorpions* are intended. (As to the *Crab* in art, vide *Z.* sec. iv.)

XV. *Leo*. The *Lion* very frequently appears on the Cylinders and other monuments.

1. *The Pre-constellational Lion*. The two most ordinary phases of this aspect of the (originally) solar Lion are (1) his contest with the Unicorn, Bull, or Ox,=the contest between Sun and Moon ; and (2) his contest with the Sun-god (Vide Vol. I. 34). Instances of the latter occur in the familiar representation of Gilgames holding a small lion in his left hand (Lajard, *M.* Pl. xxiv.) ; fighting with a lion (Cullimore, *O. C.* No. 97), holding up a lion by the hind leg (*Ib.* No. 102), or, as Hêraklês-Engonasin, holding up a lion over his head (*Ib.* No. 39), or, again, on one knee grappling with a lion (*Ib.* No. 41). These combinations do not represent the feats of some early hunter-king. The group of 'le lion dévorant le taureau' is also a very favourite subject in art, of which numerous examples are given in Lajard, *M.*

2. *The Constellational Lion*. The Sign *Leo* also frequently occurs on the Cylinders. Thus Lajard, Pl. xxxviii. 4 represents the solar Gilgames overcoming the lunar Bull, a combination afterwards

reduplicated in the familiar group of Mithra and the Bull. Figured, apparently in the air, and by the head of Gilgames is his beast the *Lion*. In Pl. lii. 6 the *Lion* appears with other constellation-figures, such as the *Ibex-ram* and the *Hare*. In Pl. lvi. 3 the *Lion* is shown with the *Lammergeier* (= *Lyra*).

XVI. *Virgo*. *Istar-Parthenos* and her *Ear-of-corn* very frequently appear on the Cylinders and on connected works of art (Vide R. B. Jr., *V*. Figs. 6, 7, 9, 10, 11, 14, 15). Thus we meet with *Istar* as a warrior-goddess (Figured in Maspero, *Dawn of Civ.* p. 670), despoiled of her garments in the Under-world (*Ib.* p. 695), and holding *Dûzi* (= *Tammuz-Orîôn*) on her knees (*Ib.* p. 697). The pre-constellational character of the goddess is (1) lunar, and (2) as the planet *Venus*.

XVII. *Ara* (otherwise *Chelai*, 'the Claws'). Altars innumerable occur on the Cylinders, as well as the pre-constellational *Altar*, i.e., the solar circle. A good example occurs in Lajard, *M.* Pl. xlii. 13. The *Claws* of course appear with the *Scorpion*. In Lajard, *M.* xxviii. 11 the *Altar* appears guarded by the two *Scorpion-men* (Vide *inf.* p. 55).

XVIII. *Scorpio*. The *Scorpion* often appears on the Cylinders, e.g., Lajard, *M.* Pl. xxvii. 10; xxxi. 2; xxxvii. 6; liii. 3, etc. Sometimes a pair of *Scorpions* are shown. These primarily represented Darkness, eastern and western (Vide Vol. I. 67).

XIX. *Sagittarius*. The *Archer* is represented on the monuments (1) As a man with a bow; (2) as a Centaur; and, according to Lenormant, (3) by an Arrow (Vide *sup.* p. 35), on the principle, familiar to symbolism, of a part for the whole.

In Lajard *M.* Pl. xiii. 8, he appears as a seated

Bowman. In Pl. liv. A 12 he is a Bowman kneeling on one knee near a star.

On a Cylinder, a copy of which was sent me by the Earl of Southesk, he appears in the usual type of *Sagittarius*, except that his wing ends in a Gryphon's head, crowned, with bow drawn and arrow on the string, galloping in pursuit of an Ibex or Goat (possibly *Capella* on the opposite side of the heavens), near which a *Bird* is perched over a doorway.

On another Cylinder (*Collection de Clercq*, No. 363) he appears similarly in pursuit of an Ibex, but instead of a Bow, holds a sword in his right hand, and his tail is that of a *Scorpion*.

This last instance naturally leads us to the consideration of the *Sagittarius* depicted on a Stone, cir. B.C. 1100, found at Bâbilu and now in the British Museum. The *Archer* in this instance is a winged man-horse with bow and arrow drawn. Behind his human head is the head of a Gryphon, his tail is that of a *Scorpion*, and beneath him, with its claws towards the *genitalia*, as in Mithraic representations of the Bull and Scorpion, is a large *Scorpion* (Figured in Perrot, *Hist. of Art in Phoen.* ii. 204).

Another instance from a Boundary-stone now in the British Museum (Fig. xii. p. 235) shows the man-horse in a similar position, but with a human head only, and a horse's tail.

XX. *Capricornus*. Perhaps no stellar figure is quite so prominent as that of the *Goat*, which is equally connected with the *Goat*-star (*Capella*) and the *Goat*-constellation (*Capricornus*). The numerous class of Cylinders whose subject is the *Goat*-sacrifice (Vide *Collection de Clercq*, Nos. 151-75) are almost certainly connected with a *Capella*-ritual; whilst the



*Goat-fish* (*Muna-kha*) is also a frequent figure. The word itself is a cuneiform ideograph representing this compound creature (Vide *W. A. I. V.* xlv. No. 1, Rev. l. 2).

In Cullimore, *O. C.* No. 29, *Capella* and *Capricorn* appear together, the former, held as usual on the left arm, as the Aix Ôlenios (Vide Vol. I. 221) of the Greek Sphere, the *Goat* on the arm of the *Charioteer* in our modern star-maps. *Capella* opened the year (Vide *sup.* p. 40), and *Capricorn* is the last of the Ak. lunar asterisms; so that the two together either represent the annual round in its totality, or indicate some special ceremonies connected with the end and the beginning of the year. Other instances of the *Goat-fish* occur in Cullimore, *O. C.* Nos. 31, 32, 93, and in Ménant, *Archives des Missions*, 1879, p. 115, where it appears on an altar.

In Lajard, *M.* Pl. xvi. 3, *Capricorn* appears in connexion with the crouching *Bull*, the human figure on which, partly destroyed, is probably connected with the *Auriga*, and hence with *Capella*. Other instances in which *Capricorn* is shown are Pl. liv. A 1, and Pl. liv. B 7, where the *Goat-fish*, a nocturnal Sign, appears immediately under the Crescent-moon and next to the *Urn*, the adjoining constellation.

'A Babylonian agate' (Figured by Landseer, *Sabaeen Researches*, 1823, p. 288, and reproduced in *E. S. R.* Pt. i. 20) shows *Capricorn*, a perfect example of the *Goat-fish*, beneath the Crescent-moon, and above an object like a ladder placed lengthways, the 6 rungs of which make 5 divisions, which probably represent degrees, either  $6 \times 5 = 30^\circ$ , being  $\frac{1}{12}$  of a circle of  $360^\circ$ , or  $5 \times 2 = 10^\circ$ , being  $\frac{1}{12}$  of a circle of  $120^\circ$  (Vide *sup.* p. 9).

XXI. *Aquarius*. This Sign, as Lenormant notes, is represented either by the god Ramânu, or simply by an *Urn* (Vide No. XX.). Instances occur in Lajard, *M. Pl.* xxx. 4; xxxv. 3; liv. B 7; liv. A 12; Cullimore, *O. C.* Nos. 130, 131.

XXII. *Pisces*. The two *Fish* are shown in Lajard, *M. Pl.* xvi. 5; xxxi. 5; xxxv. 7; l. 2; Cullimore, *O. C.* No. 88, etc. A single *Fish*, perhaps the *Piscis Notius*, appears in many instances.

XXIII. *Extra-zodiacal constellation-subjects*—the *Wain*. It is probable that the 7 stars which are shown on some Cylinders—the *Wain*. In Lajard, *M. Pl.* xxxv. 4, they appear in a similar arrangement of 4 and 3 in a nocturnal scene, where the Crescent-moon, the Air-god, a large star (probably *Venus*), and the *Twins* are shown. In *M. Pl.* xxx. 7 they again appear next to the Crescent-moon. In *Pl.* xxix. 6 they appear above an *Ibex-goat* standing on a star (= *Capella*), the Crescent-moon being also shown. Other instances are *Pl.* xxix. 5; xxxii. 11; liv. 5. In the *Collection de Clercq*, No. 344 bis, the same combination of Crescent-moon, Seven Stars and *Ibex-goat* is shown. Vide also Cullimore, *O. C.* Nos. 19, 20, 21.

XXIV. *The Kneeler*. Instances of a figure kneeling upon one knee are frequent on the Cylinders (Vide Lajard, *M. Pl.* xxxi. 4, 7; xlix. 5; liv. B 14). It is a usual attitude of Gilgames-*Héraklès*, e.g., in his great contest with the *Lion* (*Ib. Pl.* xix. 6; xxv. 3; xxvi. 5), or when watering the celestial Bull (*Collection de Clercq*, No. 461).

XXV. *The Birds*.

1. *Aquila*. The *Eagle* is frequently represented. Thus, a Cylinder (De Sarzec, *Découvertes en Chaldée*,

Pl. xxx. *bis*, No. 13) shows him carrying the ancient hero Etana to heaven. In Lajard, *M. Pl.* xxxiii. 7, he appears with the *Lion*. In *M. Pl.* xxxv. 7 he appears with the *Water-pourer*, *Fishes*, *Twins*, and *Crab*.

2. *The Lammergeier* (= *Lyra*. Vide Vol. I. 35). Appears in Lajard, *M. Pl.* xviii. 7, and again in Pl. xxxvi. 11, with the *Virgin*, *Ear-of-corn*, *Ram*, etc. Many late representations of the constellation, e.g., the Oxford Arâtos of 1672, show a *Lyre* on an *Eagle* displayed, thus combining the forms.

3. *The Bird* (*Swan*). Appears in Lajard, *M. Pl.* xxxii. 7, with the *Water-pourer* and the *Bucranium* (= *Taurus*). Also in Pl. xxxiii. 1 with the *Urn*; in Pl. xxxiii. 5 with the *Twins*; and in Cullimore, *O. C.* No. 3.

4. *The Raven*. Appears in Lajard, *M. Pl.* xxxvi. 10; and in Pl. xi. 1, with *Capella*, the *Hare*, etc.

5. *The Fight between Samas-Gilgames and the Tempest-birds* (Vide Vol. I. 234-5). In Lajard, *M. Pl.* liv. B 11 is shown a fight between the Archer-sun and a huge Bird of night and tempest, above whom is the Crescent-moon.

In Pl. lxi. 7 Samas contends with the Triad of Storm-birds, grasping one by the neck, another by the leg, and trampling on the third. This is the pre-constellational aspect of the constellation-group of *Hercules*, *Sagitta*, *Aquila*, *Lyra*, and *Cygnus*. Another Cylinder, a copy of which was sent to me by the Earl of Southesk, shows a personage holding up a huge bird, evidently subdued; and a Tablet (Lajard, *Nineveh and Babylon*, p. 609) shows four-winged divinities holding up huge birds.

XXVI. *The Winged-horse* (*Pégasos*). A 'sujet tiré des sculptures d'un des palais assyriens de Nim-

roud' shows a four-winged personage holding with either hand a winged-horse by the mane. The horses stand one on each side of him on their hind legs (Lajard, *M.* Pl. liv. C 5). For another instance vide *sup.* p. 37.

The Winged-horse also appears on a Hittite seal (*Ib.* Pl. xlv. 3a), which has of late been frequently reproduced. It is galloping with wings outspread, one below and the other above it. In the field are the Crescent-moon, a Bull's head and 3 stars (Vide Vol. I. 308).

In a later instance of West Asian art Pégasos appears in his exact constellational form, as a winged demi-horse, in the field the Crescent-moon and a star (Lajard, *M.* Pl. xliii. 27).

XXVII. *The Snake-holder.* The goddess Allat holding a snake in each hand (Vide *sup.* p. 39), with a wild boar and dog at her breasts and standing on a horse (Lajard, *Culte de Vénus*, Pl. xvii. 1). 'Découvert dans les ruines de Babylone.'

Personage holding with both hands a large snake in front of him (*Collection de Clercq*, No. 131). In Lajard, *M.* Pl. xii. 18 a seated personage is holding up what may be intended for a large snake.

A Hittite Cylinder (*Ib.* Pl. lviii. 6) is of great interest, as affording one of those rare examples of constellation-figures on their passage between the Euphratés Valley and Hellas. Before the god Tarku, who is bird-headed, winged, and on one knee, in the *Engonasin* attitude, stand 3 human figures, one of whom holds a large snake in his left hand. Behind him is the crouching Bull (*Taurus*), below which are two other human figures, striking hands (= *Gemini*). Near them is a Dog, on a line with which are two

*Lions*, facing each other. At the upper part of the Cylinder is an inscription in the Hittite script, which Lajard refers to as 'caractères inconnus.' The cylinder thus supplies positive proof that many, and therefore probably most, of the Euphratean constellation-figures were adopted by the Hittites, who would pass them on through Asia Minor, so that they ultimately reached Hellas by land as well as by sea through the Phoenicians and others.

I may here appropriately notice a Phoenician representation of this constellation-figure (Figured by Canon Spano, *Mnemosine Sarda ossia Ricordi e memorie di varii Monumenti Antiche con altre rarità dell' isola de Sardegna*, Cagliari, 1864, and reproduced by me in *C. E. A.* p. 31, Fig. 25). In the Tablet of the 30 Stars, *Ophiouchos* is called *Mulu-bat* ('The Man-of-death'), and in describing the Phoenician design I said:—

'The Light-god who fights with the dark monster, dragon, serpent, appears in most mythologies; and as the Euphratean Sun-god grapples with the lunar Bull and with his own Lion, so does he seize the Serpent or Dragon of darkness and chaos. This he does daily, and especially when he becomes "the Man-of-death," i.e. when he descends into the Under-world. In this [design] we see the winged and blinded Sun-god, as Hêlios-Ophiouchos, grasping the Snake of darkness in the same manner, and with its head in a corresponding position to that of *Serpens* on our globes. The god is guided by a Kabeiric dwarf, and the student of Hellenic mythology will remember that the myth reappears there in the persons of the blinded Ôrîôn and his dwarf guide Kêdaliôn of Lemnos, whose name signifies one who takes charge of the dead (Vide

Eustathios, in *Il.* xiv. 294), and who is, therefore, a fitting guide for the man devoted to death' (*C. E. A.* p. 31; vide *G. D. M.* ii. 276 *et seq.*). Such an instance as this shows that it is merely our loss of the works on the Phoenician constellation-figures (Vide Vol. I. 149), which makes it somewhat difficult to fully demonstrate the identity of the Greek and Euphratean Signs. Had we the Hittite, Phoenician, and archaic Greek representations, the matter would be obvious at a glance.

In Lajard, *M.* Pl. xvi. 4 is given the Cylinder representing a tree with a human figure seated on either side of it, behind one of which figures, possibly that of a woman, a large Snake is standing upright on its tail. The design, as of course, strikingly reminds us of the Biblical account of the Fall of Man.

XXVIII. *The Charioteer.* A remarkable and rudely-engraved Cylinder (Lajard, *M.* Pl. xli. 3; Culimore, *O. S.* No. 6) shows a human figure seated in a large four-horse chariot, the horses being drawn one above another. In front of this are two horned animals joined together, and thus practically making one, standing on their hind legs in the position called in heraldry *counter-salient*. Behind them is another animal, very rudely drawn, but showing distinctly head, horns, tail and four legs. Below these creatures are two pairs of small human figures, each pair facing the other. It is, of course, easy to fall into error in attempting to explain such occult groups; but, at the same time, we are bound to suppose that the engraver had a definite meaning, and the Cylinders generally are very largely taken up with celestial phenomena. Reasonable conjectures on such lines are therefore permissible. I have shown elsewhere (*U.* p. 18;

*L. K. O.* pp. 24-5) that the Unicorn-ibex-goats, *counter-salient*, in the well-known Cylinder of the Sun-god and the Moon-god arranging for the preservation of kosmic order (Figured in Smith and Sayce, *Chal. Ac. Gen.* p. 112), represent the 'monthly cycling progress of the moon there and back' (*counter-salient*); and I would similarly explain the two animals in one of this Cylinder as the two, yet one, horned lunar Bulls. The other animal is the Goat-star (*Capella*) and the *Charioteer*=*Auriga*. The two pairs of Twins may be the *Great-twins* of the lunar Zodiac, i.e., the Pleiades and Hyades, and the *Great Twins* of the solar Zodiac (*Gemini*), i.e., *Castor* and *Pollux*. Should this view be correct, we have here a very complete picture of this portion of the heavens.

In modern representations the *Charioteer* is generally without his chariot, but never without his *Goat*; and this seems to be equally true in the case of Euphratean representations of the constellation-figure. In numbers of instances the *Goat* is carried on the arm of a personage who is probably *Auriga* or connected with him (*Vide sup.* p. 46), but who is without a chariot.

XXIX. *The Triangle.* *Deltôton* is shown in various instances, e.g., Lajard, *M.* Pl. xl. 5; Cullimore, *O. C.* No. 22.

XXX. *The Stream.* On many cylinders a stream of water is conventionally represented, viz., as a row of coils of similar pattern. Thus in Lajard, *M.* Pl. xvi. 5 it is shown with a *Fish* above it and another *Fish* below it. In Pl. l. 3 it is placed next to two *Hares*, just as the *Potamos* adjoins *Lepus*. In Pl. lii. 6 it is next the *Ibex-ram*, and similarly we notice that the *Potamos* is near *Aries*.

XXXI. *The Hare*. This animal often occurs on the monuments. In Lajard, *M.* Pl. xxxvi. 13 a horned personage holds up a *Hare*, near which is a *Lammergeier*. In Pl. xl. 7 two *Hares* are placed next the *Stream*, as in another instance above noticed (Vide No. XXX.). The design in Pl. xli. 2 is a *Hare* chased by a *Dog*=*Lepus* and *Sirius*. In Pl. l. 4 the two *Hares* again adjoin the *Stream*. (For other instances vide R. B. Jr., *E.* pp. 10-11 ; Vol. I. 97).

XXXII. *The Dogs*. This animal also often occurs on the monuments. In Lajard, *M.* Pl. xv. 1 a personage, armed with the *khereb* or sickle-shaped weapon of the Sun-god, seizes a rearing Unicorn by the ear and restrains it. Above the Unicorn is the Crescent-moon, and beneath its forepaws a very large *Dog*, *sejant*. The subject of the cylinder is apparently the triumph of the Sun-god over the Moon-god ; and the *Dog*, which is taking no part in the contest, and therefore is not a solar dog, may possibly represent *Canis Maj.* or *Sirius*, as the star-king. In Pl. xxxviii. 1 a large *Dog* is represented with the Olenian *Goat* and Crescent-moon, etc. In Pl. xxxix. 4 a large *Dog* appears *sejant*, on an *Altar* (Vide also No. XXXI.). In Pl. xl. 2 by the side of the Crescent-moon is a large 6-rayed star, beneath which is a large *Dog*, *sejant*, apparently being invoked by a votary who stands before him with right hand raised. If this does not refer to the *Dog*-star, it is impossible to explain the combination. In Pl. liv. B 15 the large *Dog*, *sejant*, appears with the *Goat* (*Capella*).

I may here mention an Etruscan Mirror (Gerhard, *Etruskische Spiegel*, ccxliii. A. No. 3), which shows (in figures) *Orion*, *Canis Maj.* and *Lepus*—not in correct celestial positions, for the *Hare* is over the



*Dog's head*—the Crescent-moon, and the following stars correctly placed, *Aldebaran*, *Nath* ( $\beta$  *Tauri*), *Hamal*, *Pollux*, *Regulus*, *Menkalinam* ( $\beta$  *Aurigae*), and *Capella*. It may or may not be the result of Greek influence, and is a rare instance of an ancient star-map (Figured in *E. S. R.* Pt. i. 9). The details of the long historical intercourse between the Phoenicians and the Etruscans are even now almost entirely unknown.

XXXIII. *The Ship*. In Lajard, *M.* Pl. l. 8 there is a representation of Gilgames and Aradêa navigating their vessel. The ship of any famous mythical or legendary voyage is naturally translated to the skies.

XXXIV. *The Water-snake*. Merôdakh attacking the Great-serpent is shown on a cylinder belonging to Dr. S. W. Williams (Figured in Smith and Sayce, *Chal. Ac. Gen.* p. 90). The same design is reproduced on an engraved stone said by Lajard (*M.* Pl. xii. 2) to be of the Sassanian period (Vide also Cullimore, *O. C.* Nos. 124-5).

XXXV. *The Bowl*. The *Bowl* or *Cup* naturally appears on the cylinders and other monuments (Vide Cullimore, *O. C.* Nos. 120, 165; Lajard, *M.* Pl. xxxiii. 11).

XXXVI. *The Centaur and Wild-beast*. This constellation-group has developed out of representations of the contest of the Sun-god and the Darkness-monster; and also, perhaps, of the contest between Êabani, the friend of Gilgames, who has the horns, legs, and tail of a bull, with a wild animal, lion, bull, etc. (Vide Lajard, *M.* Pl. xv. 6; xxvii. 10; Vol. I. 110-12; Fig. xv. p. 241).

XXXVII. *The Altar* (Vide No. XVII. An excellent instance of the *Altar-censer* (Vide Vol. I. 117),

guarded by the *Scorpion*-men of darkness, eastern and western, appears in Lajard, *M.* xlix. 2. A slightly variant representation of the same scene is given in Cullimore, *O. C.* No. 160. The Southern Altar is of course a reduplication of the zodiacal *Altar*, and the two form one of the many celestial pairs, such as *Bears, Wains, Goats, Dogs, Shepherds*, etc.

XXXVIII. *The Sea-monster.* Tiâmat (Vide Vol. I. 89) overcome by Marûdûku frequently appears on the cylinders and other monuments. In Lajard, *M.* Pl. xxv. 1 the Sun-god, armed with his bow and arrow, delivers the Moon-god from the Tiâmat-dragon of darkness and chaos. The same contest is represented in Pl. xxv. 5 and in Pl. xxxiii. 4 (Vide No. XXXIV.).

As the identification of many of the personages on the cylinders is extremely doubtful, I do not at present attempt in detail to connect any of them with the *Boôtês, Képheus, Kassiepeia, Perseus, Andromeda*, and *Óríôn* of the Greek sphere.

XXXIX. *The Mithraic Group.* The early Euphratean designs, both constellational and pre-constellational, continue to be repeated on numberless stones, gems, seals, coins, and other works of art in Western Asia. Writers such as Lajard and Imhoof-Blumer supply almost any amount of instances; but with these we are not at present concerned. I may, however, refer to one striking example of the reappearance of Euphratean ideas and designs, namely, the group of figures, the centre of which is formed by Mithra and the Bull. Mithraic representations have been exhaustively collected by Prof. Cumont in his great work *Textes et Monuments Figurés relatifs aux Mystères de Mithra*, the second volume of which

appeared in 1896. I shall, however, here quote an instance or two from an earlier writer. Leonardo Agostini Senese, *Gemmae et Sculpt. Antiq.* 1694, Pl. i., gives the following Mithraic scene, which in many of its incidents is repeated in innumerable examples. In the centre of the upper part of the design stands Mithra, as the Sun-god, with large outspread wings, and encircled by the Time-serpent, the Kampê slain by the solar Dionysos (Vide Vol. I. 302). He is thus an *Ophiouchos*. At his right are 3 planetary *Altars*, and the Sun-god radiate in his car with four horses (=an *Auriga*). At his left are the remaining 4 planetary *Altars*, and the Moon-god-goddess in a *biga* drawn by two horses. To the right of the representation stands the Genius of morning with uplifted torch, below whom is the Genius of Evening with reverted torch. The remaining and principal group shows Mithra stabbing the *Bull*, near whose head is a *Bucranium*, and whose tail at the end is divided into two *Ears-of-corn*. This Mithraic *Bull*, so far as art is concerned, is a reduplication of the Euphratean *Bull*, the Amar-uda (Vide *Tab.* 79-7-8, 312), with whom Gilgames and Êabani contend, or whom Gilgames waters (Vide *sup.* 47); and the peculiar artistic treatment of his tail is a reduplication of the *Bull* and *Ear-of-corn* of the Euphratean monuments (Vide No. I.). He is surrounded by hostile creatures in the Mithraic representation, a *Dog*, which springs up to lick his blood; a large *Serpent*, which bites him; a *Scorpion*, which seizes on his *genitalia*. Beside them is a small *Lion*, and above in the air a *Raven*. One Cylinder (Lajard, *M.* Pl. xxvii. 10) shows the combat between Êabani and the Bull, who is also apparently threatened by a large *Scorpion*.

I am not here concerned with the explanation of all this complicated Mithraic symbolism, or with the history of the concept of Gêus-urvâ ('Soul-of-the-Cow'), the Iranian primeval Earth-cow, or of the Iranian primeval Bull, both of whom were slain, like the Mithraic Bull of the monuments. It is only the artistic connexion between Babylônia and Persia in the matter to which I call attention. The Mithraic Bull is a descendant in art of the Euphratean Bull, as the Man-bulls of Persia are of the Man-bulls of Nineveh and Babylôn.

The *Eagle* also at times appears on Mithraic monuments (Vide Senese, Pl. ii.), as do the two Palm-trees, one at each side of the representation (*Ib.*), and which symbolize the two Groves of the Under-world, one at the far East and the other at the far West. These two Palm-trees appear on the Cylinder already noticed which gives the league of the Sun-god and the Moon-god (*Sup.* p. 52); and they are conventionally introduced on a Persian Cylinder (Lajard, *M.* Pl. xxv. 6) depicting Dârayavaush I. lion-hunting. In regions westward the original Palm is often represented by the pyramidal Cypress and the Poplar. Two such Cypresses are also shown on the design in question; and the Poplar meets us in the Homeric Grove of Persephonê (Vide R. B. Jr., *K.* pp. 106-7), an Aryan goddess, the analogue of the Euphratean Ninkigal-Allat (Vide *sup.* p. 39).

Another Mithraic group (Senese, Pt. ii. Pl. xxxiii.) gives the Sun and Moon, represented both as human heads and as stars; the five Planets, represented as stars; and besides the usual figures of Mithra, the *Bull*, two Genii, *Dog*, *Scorpion*, and *Crow*, there are also shown the *Ear-of-corn*, *Eagle*, *Arrow*, *Tortoise*,

and *Dolphin*, of which latter I do not remember a Euphratean representation. The Thunderbolt, which also is shown, is a familiar Euphratean weapon of Bél in his contest with Tiâmat.

Other Mithraic representations show the *Bowl* (*κάνθαρος*), close by the *Serpent* and the *Lion* (Vide Grand Bas-Relief de Heddernheim, ap. Cumont, ii. 363), agreeing with the celestial positions of *Hydra*, *Crater* and *Leo* (Vide *Ib.* ii. 374, Fig. 283). The *Ram* also appears in Mithraic art (*Ib.* p. 428, Fig. 363) and the *Fish* (*Ib.* Fig. 366). Another instance (Jos. de Hammer, *Mithriaca*, 1833, Pl.-iii.) shows the *Pegasus*, *Eagle*, *Swan*, etc. It is therefore sufficiently obvious that the greater part of the Mithraic imagery is Euphratean in origin ; and the illustrative examples given in the present chapter will show that Euphratean art, like that of the earlier coin-types, and like the early unnumismatic art of the Aigaion seaboard and of Asia Minor, is simply crowded with constellation-subjects.

## CHAPTER XI.

### The Tablet of the Thirty Stars.

#### SECTION I.—INTRODUCTORY.

THE Tablet *W. A. I.*, V. xlv. No. 1, from the Birs-Nimroud, written in the Babylonian cuneiform and copied from an older tablet, is of very great interest and importance in connexion with archaic astronomy and stellar mythology. It is divided into three parts. Part I., lines 1-38, including the obverse and the two first lines of the reverse, is in two columns, the first of which gives the names of 31 stars or asterisms, and the second shows their regent-divinities. Part II., lines 39-53, is also divided into two columns, the first of which gives a further star-list, including also several planet names, and the second adds some remarks and explanations. Part III., lines 54-64, consists of text, not in columns, but in two divisions, the first of six, and the second of five lines. This part contains some observations on the position of the moon during the months Kislev, Tebet, and Sebat. The first point of special interest in connexion with the Tablet is that it supplies the list of the 30 stars spoken of by Diodôros (*Vide sup.* p. 3). In his account of the Chaldaean celestial scheme, after having mentioned the planets, he continues: 'Υπὸ δὲ τὴν τούτων φορὰν λέγουσι τετάχθαι Τριάκοντα Ἀστέρας, οὓς προσαγορεύουσαι Βουλαίους Θεούς ('And under the orbit of these [the planets] they say that Thirty Stars,

which they denominate "Divinities of the Council," have been marshalled'). As noticed previously, the Chiefs of the Thirty were 12 in number, to each of whom a sign of the Zodiac was assigned. This last arrangement was a practical combination of a rough lunar Zodiac, consisting of 30 or 31 moon-stations, with the familiar solar Zodiac. The lunar Zodiac, moreover, was specially Sumero-Akkadian, for in *W. A. I.* IV. xv. we read (ap. Sayce) of certain spirits :—

Ak. 'In the watch of the Thirty (Stars) was their office.'

Sem. 'In the Signs of the Zodiac was their office.'

So that the sphere of the Thirty Stars was equivalent to that of the Twelve Signs, and the former concept was Sumero-Akkadian, the latter Semitic, or more Semitic. In a combination of the two divisions and systems, Twelve of the Thirty necessarily became 'Chiefs.' Although the number 30, as that of the days of the month, is connected with the moon and the lunar month of 29 days, 13 hours, yet these 30 stars do not very accurately represent the lunar mansions; they merely mark out these in a vaguely approximate manner. From what has been said it follows, as of course, that the 30 (31) stars of the Tablet are all either in or comparatively near the ecliptic. And this fact was clearly seen by that able Assyriologist the late Geo. Bertin, who first drew my attention to it, and kindly assisted me in its study. In the abstract, also, it is highly probable that these 31 stars, inasmuch as they mark the successive steps of the moon during the month, would be named in the Tablet in correct celestial order. This circumstance also is confirmed by its internal examination; and

the Tablet therefore supplies highly important material for a correct reconstruction of a large portion of the Euphratean celestial sphere. Moreover the 31st and last star (=also 'Asterism' or 'Constellation,' as the case may require) of Part I., that is, of this most ancient Lunar Zodiac, the parent of all other lunar zodiacs, is the *Goat-fish* (*Muna-kha*), one of the 12 Chiefs of the Thirty, a Sign which, without any doubt or question, = *Capricorn*. Hence the year indicated by the Tablet commenced in *Aquarius*, and the 30 Stars must be traced round from *Aquarius* to *Capricornus*. This represents a year which, like the Boiôtian, Delphian, and Bithynian years, commenced at the winter solstice, a very natural point of beginning. Thus, we find that the appearance of the first full moon after the winter solstice 'is still celebrated as the chief annual festival of the Dravidians [like the Sumero-Akkadai, a non-Aryan and non-Semitic race] of southern India, where it marks the beginning of the year' (J. F. Hewitt, *Early Hist. of Northern India*, pp. 551-2). A list of Tamil (Dravidian) lunar and solar-lunar months, given by Mr. Hewitt, is as follows :—

**Tamil Lunar List.**

1. *Tai*.
2. *Maussi*.
3. *Panguni*.
4. *Chittri*.
5. *Vayasi*.
6. *Auni*.
7. *Audi*.
8. *Auvani*.
9. *Purattasi*.
10. *Arpesi*.
11. *Kartikai*.
12. *Margali*.

**Tamil Solar-lunar List.**

1. *Kumbha* ('the Watering-pot').
2. *Minam* ('the Fishes').
3. *Mesham* ('the Ram').
4. *Rishabam* ('the Bull').
5. *Midhunam* ('the Twins').
6. *Kartakam* ('the Crab').
7. *Simham* ('the Lion').
8. *Kauni* ('the Girl').
9. *Tulam* ('the Balance').
10. *Vrishakam* ('the Scorpion').
11. *Dhamsu* ('the Archer').
12. *Makaram* ('the Goat-fish').



This order is in exact agreement with that of the Tablet of the Thirty Stars, a circumstance which confirms the inference that it was a widespread and archaic arrangement amongst Turanian nations. The Signs of the Zodiac reached India through the Greeks (Vide Vol. I. 17), and duly appear in the Tamil Solar-lunar list; but they are placed in a non-solar order, the *Urn of Aquarius* first, the *Goat-fish* last. 'Lunar chronology,' says Prof. Max Müller, 'seems everywhere to have preceded solar chronology' (*Rig-Veda-Samhitā*, Vol. IV., 1892, Preface, p. 67); and the Euphratean Lunar Zodiac, as I have elsewhere shown (Vide Vol. I. 17) is the source of all other existing lunar schemes.

The Tablet of the Thirty Stars has been treated at length by me (30 *S.* 1890; *E. S. R.*, Pt. v. 1895-6), and more briefly by Prof. Hommel (*Astron. der alt. Chal.* Pt. iii., 1892, pp. 15-16). He agrees that it contains a 'Mondstationenliste,' but supposes that the list begins with the *Pleiades*, and that lines 12-26 form an Excursus, relating to the Pole-star, *Aries*, *Pegasus*, *Deneb* (*α Cygni*), *Cassiopeia*, etc. In *E. S. R.* Pt. v. pp. 6-7, I criticised this view, but, so far as I am aware, my arguments have received no reply. Prof. Hommel's learning and services to the cause of literature and historic truth are so great that it would be uncourteous to pass over his opinion in silence; and I therefore reproduce here the considerations which seem to me to be absolutely fatal to his theory. These are mainly:—

I. The testimony of Diodōros, above mentioned, and the argument derived from other schemes, such as the Tamil List. Of these circumstances Prof. Hommel takes no notice.

II. If the list ends with the *Goat-fish* (which he admits), and the asterisms are mentioned in actual celestial order (which, except as regards the alleged *Excursus*, he also admits), how is it possible that the *Pleiades* could be No. I.? In this case there would be no moon-station for the heaven-space occupied by *Aquarius*, *Pisces* and *Aries*, which is absurd. Bertin, for some reason, supposed that Asterism No. I., that of 'the *Foundation*,' was  $\beta$  *Ceti*. Even this view would leave the *Aquarius*-space unaccounted for, and  $\beta$  *Ceti*, a smaller second magnitude star, is a long way from the ecliptic; but still this opinion is better than Prof. Hommel's theory.

III. At first sight Prof. Hommel's explanation of the leading asterisms of the Tablet seems to be absolutely conclusive, i.e., 'the *Foundation*' (= *Pleiades*), 'the *Jackal*' (= *Aldebaran*), *Gam* (=  $\beta$  and  $\zeta$  *Tauri*), 'the *Great-twins*' (= *Castor* and *Pollux*), the *Little-twins*' (= *Asellus bor. et aust.* in *Cancer*), and 'the *King*' (= *Regulus*). But, unfortunately for this view, we are informed in l. 49 that the *Ram* is *saku-sa-risi kakkabi Gam* ('the uppermost part of the asterism *Gam*'); and thus *Gam* cannot be  $\beta$  and  $\zeta$  *Tauri*, nor can it come after the *Pleiades* and *Aldebaran*, and so the chain is at once and fatally broken. Moreover, as noticed (Vol. I. 338),  $\beta$  *Tauri* was 'the northern-light of the *Chariot*,' and  $\zeta$  *Tauri* 'the Southern-light of *Chariot* (Ak. *Gar*, Bab.-As. *Narkabtu*); and in *W. A. I.* III. lvii. No. 9, l. 70, the constellation of the *Chariot* is distinguished from *Gam*, which is named next to it (l. 71). Thus, also from external evidence, *Gam* cannot be  $\beta$  and  $\zeta$  *Tauri*. This fatal error in the scheme makes it unnecessary to examine it more in detail. I may, however, add that whilst the

Pleiad is undoubtedly a 'foundation' star, it is the *Foundation*-star of the solar, not of the lunar, Zodiac, and, as such, is called *Tê* (Vide *sup.* p. 16); whereas the *Foundation*-asterism of the lunar Zodiac of the Tablet is not called *Tê*, but, both here and elsewhere, *Apin*.

The important piece of information respecting *Gam* and the *Ram* (*Aries*) given by the scribe, as above noticed, shows that he was well acquainted with two sets of figures, lunar and solar. The *Ram* was a solar constellation, *Gam* a lunar asterism. It must be remembered that the solar Zodiac was, if I may so express it, placed upon the lunar Zodiac, and covered the same space in uranography. Mr. T. W. Kingsmill, in an important article, full of learning and suggestiveness, entitled *A Comparative Table of the Lunar Asterisms* (*Journal of the China Branch of the Royal Asiatic Soc.*, Dec., 1892), observes :—

‘Notwithstanding the wide extension of the lunar mansions, which at one time must have been popularly received from China on the one hand to Greece on the other, the system cannot have prevailed for many centuries’ (p. 78).

‘If, however, the completion of the series of lunar stations, and the astronomy to which they gave rise, cannot be dated before 2350 B.C. [?], we find that the system cannot have had more than two centuries of unchallenged existence. Evidence . . . goes to prove that when the astronomers of Chaldea adopted the solar signs, and marked the beginning of the year by the solar culmination of the constellations, the Pleiades still occupied the place of honour, marking a date not later than 2150 B.C.’ (p. 79). But, whatever may have been the case in other countries, in the Euphratês

Valley the lunar scheme had probably, either solely, or jointly with the solar scheme, a reign of many centuries. Lacouperie's researches resulted in the conclusion that amongst other elements of West Asian civilization acquired by the ancestors of the Chinese, through their relations with the Euphratês Valley and Nummaki (Êlâm), were 'four seasons in the year, the winter solstice as beginning of the calendar' (*Western Origin of the Early Chinese Civilization*, p. 378). Prof. Hommel's error, in my opinion, consists in treating the lunar, as if it were a solar, scheme, beginning, naturally enough, in *Taurus*.

It will doubtless be asked, What is the basis for Prof. Hommel's idea that lines 12-26 of the Tablet form an Excursus, and refer to stars some of which are far from the ecliptic? The answer to this is briefly as follows:—Asterism No. XVIII. is 'the *Horse*' and No. XIX. *Lulim* ('the He-goat' or 'Ibex') and these are supposed by Prof. Hommel to represent *Pegasus* and *Aries*. Now the *Horse* is not necessarily *Pegasus*. The heaven is full of duplicates, two *Bears*, *Wains*, *Lions*, *Dogs*, *Goats*, etc. *Lulim*, again, does not necessarily mean 'ram.' Thus, Prof. Sayce observes, 'The full name of Saturn was Lubat-sakus, which is given as a synonyme of *Lulim* in *W. A. I.* II. 48, 52. Now *lulim* signified both "king" and "stag" ' (*Trans. Soc. Bib. Archaeol.* iii. 169), in support of which statement he quotes *W. A. I.* II. vi. 8, 31, 41 (Vide also Sayce, *Rel. Anct. Babs.* p. 284). Bertin was inclined to render *lulim* by 'gazelle,' which in Ak. is *elim*; *lulim*, according to Prof. Sayce, being probably 'a re-duplicated form of the same word.' But *lu* certainly means 'flocks' (of small cattle, i.e., sheep and goats) Sem. *tsênê*, and the meaning 'king'

is derived from the idea of the leader of the flock. We shall see when we come to Asterism No. XIX. that the animal there mentioned is not the zodiacal *Ram*, which when referred to in this Tablet (l. 49; vide *sup.*) is called, not *Lulim*, but *Lu-nit* ('Male-sheep'). It would indeed be strange if the scribe having begun at the *Pleiades*, and gone on regularly for some time, should suddenly introduce *Aries* in the middle of his list. Again, Asterism XXII, *Entenamaslu*, which is rendered by (Sem.) *Stru*<sup>1</sup> *Etsen-tsiri* (*W. A. I. II. xlix. 47*), 'the Limb Tip-of-the-tail,' Prof. Hommel considers to be *Deneb* (i.e., Ar. *Dzeneb* or *Zanab*, 'the Tail'—of the *Bird*), a *Cygni*. I know of no reason for the identification except that both are thus connected with a 'tail,' but not necessarily with the same tail. And the utter baselessness of this identification well appears from *W. A. I. III. lii. No. 1, l. 17-18*, where we read:—

*Kakkab Lubat ina arakh Dûzu innamar. Kakkab Entenamaslu ina atsu-su kakkaba itammikh* ('The planet *Jupiter* in the month *Tammuz* is seen. The asterism *Entenamaslu* at its rising the planet holds').

This asterism, therefore, as Jensen (*Kosmol.* p. 54), perceived, must be 'in der Nähe der Ekliptik'; and cannot therefore be the tail of the *Swan*. Such, then, is the general character of the Tablet, and such are some of the principal reasons for not accepting Prof. Hommel's view of it. I will next give a transliteration and translation, accompanied by notes, of such parts of it as are connected with the present enquiry.

<sup>1</sup> A word placed as a Determinative Prefix before parts of the body.

## SECTION II.—TRANSLATION OF THE TABLET, WITH EXPLANATORY NOTES.

### SUB-SECTION I.—THE ARCHAIC LUNAR ZODIAC.

#### Asterism No. I.

1. *Kakkab Apin.* | *Ilu Sar.*

‘The Asterism of the *Foundation.* | The god *Sar.*’

In deciding upon what stars constituted ‘the Asterism of the *Foundation*,’ our choice, as will be observed from what has been already said, is necessarily restricted to the region occupied by *Aquarius*. That *Apin* was in or near the ecliptic we learn expressly from Tab. S. 375; *Kakkab Apin kharran Samsi iksud* (‘The Asterism of the *Foundation* the path of the Sun took’). My late friend Dr. Lacouperie shortly before his death sent me a corrected list of the Chinese *Siu*h (Lunar Mansions); and it is remarkable that the 25th of these is *Wei*, anciently *Gui* (Cf. Ak. *Gi*, ‘foundation’), and consists of  $\alpha$  *Aquarii* and  $\theta$  *Pegasi*. It is also to be observed that the *Fortuna Maior* of Dante, Chaucer, and other mediaeval writers, consists of the stars  $\alpha$ ,  $\gamma$ ,  $\eta$ ,  $\zeta$ ,  $\pi$  *Aquarii* and  $\theta$  *Pegasi*; and it is very interesting to notice how the later greatness of these comparatively inconspicuous stars depends upon early Euphratean ideas (Vide R. B. Jr., in the *Academy*, Jan. 12, 1895). We have seen (*Sup.* p. 16) that the name of the xith zodiacal constellation was *Gu*, *Gula* (‘the *Urn*’), and in *W. A. I.* III. lvii. No. 5, l. 2 it is called *Gu-si-sa* (or *-di*), ‘the Leading’ or ‘Directing *Urn*,’ just as the second month of the year, once the first, is called *Gut-si-di* (or *-sa*), ‘the Directing-bull.’ Such a name points to the *Urn* having been regarded, at some time and in some way, as the head and first

of the chain of year-asterisms ; just as it appears at the head of the Signs in the Tamil solar-lunar list. We may consider, then, 'the Asterism of the *Foundation*' as probably including the stars  $\alpha$ ,  $\gamma$ ,  $\zeta$ ,  $\eta$ ,  $\theta$ ,  $\lambda$  and  $\delta$  *Aquarii*, with perhaps some others adjoining. In *W. A. I.* III. liii. No. 1, l. 2 we read *Kakkab Apin ana siri surri* ('The Asterism of the *Foundation* portends the foundations of a gate'), a good illustration of a senseless prognostication based merely on the name, at a time when the original meaning of the name had very likely long been forgotten. The regent divinity of the 'Asterism of the *Foundation*' is appropriately 'the god Sar,' (Ak.) An-sar, the power of the Upper-expanse, who is named in the *Creation Legend*, and whose name 'is generally read Assur as a deity in later times, being an ordinary symbol for the supreme god of the Assyrians' (Smith and Sayce, *Chal. Ac. Gen.* p. 61). Assur = Gk. *Νασαράχ*, Nisroch (Is. xxxvii. 38).

#### Asterism No. II.

##### 2. *Kakkab Lik-bar-ra*. | *Ilu A-nu*.

'The Asterism of the *Hyena*. | The-god Anu.'

The *Lik*-, *Lig*-, or *Urbarra* ('Striped-dog'), Sem. *Akhû*, Heb. *Óakh*, is rendered by that eminent naturalist the late Rev. Wm. Houghton 'hyena,' but more commonly 'jackal.' In *W. A. I.* II. xlix. No. 3, l. 38, the asterism *Likbarra* is explained as *A-khû*, the *Okhtim* being the 'doleful creatures' of the A. V. in Is. xiii. 21. This asterism was in some way specially connected with the planet *Mars*, a fact which appears from *W. A. I.* III. lvii. No. 6, l. 2, where the first of the seven names of the planet is given as *Ul Manma kakkab Akhû* ('The luminary reigning over the star

[asterism] of the *Hyena*.’ Sayce.). *Mars* as *Numma*, Sem. *Zibu* (‘the Wolf’) seems related to the Hyena or Jackal; and in Anu, the divinity ruling over the asterism, we are again reminded of *Zalbat-Anu* (*Mars*). In *W. A. I.* II. xlix. No. 4, l. 1 the asterism *Likbarra* appears in a list with the stars of the *Lion*, *Dog*, etc. The *Urbarra*, if only by play on words (to which the scribes evidently much inclined), is the animal appropriate to the Horizon- and Foundation-god Ur, and hence is suitably placed next to ‘the *Foundation*.’ As noticed (*Sup.* p. 35) the *Likbarra* appears in Euphratean uranographic art. Jensen (*Kosmol.* p. 147) makes the curious mistake of supposing that the line is to be read as an equation, i.e., *Urbarra*=Anu. This and his peculiar view about Anu, ‘Anu ein Pol des Himmels’ (*Ib.* p. 19), have misled Sir Norman Lockyer, who writes:—

‘Do we get the jackal in Babylonian astronomy? . . . Jensen refers to the various readings “jackal” and “leopard,” and states that it is only doubtful whether by this figure the god ANU or the pole of the ecliptic ANU is meant’ (*The Dawn of Astronomy*, p. 362). As I have said elsewhere, ‘the theory which makes “Anu Nordpol d. Ekliptik” and “Bil Nordpol d. Aequators” is not really borne out by the Inscriptions’ (*Academy*, March 31, 1894, p. 272); and the *Jackal* or *Hyena* (not ‘Leopard’) is neither Anu nor a planet. Jensen (*Kosmol.* pp. 120, 524), by a further mistake, identifies the *Urbarra* with *Mercury*. As the reader will observe none of the 30 Stars (asterisms) are planets; nor could they be planets, since they form a lunar zodiac. Planets are named afterwards in the next division of the Tablet. There is no asterism of the *Fishes* amongst the 30, for *Fomal-*



*haut* seems to have been too far to the south to have been included; and *Pisces* is a dark constellation, whilst *Okda* ( $\alpha$  *Piscium*), as we shall see, was included in the next asterism. The *Urbarra* will therefore consist of  $\zeta$ ,  $\alpha$ , and  $\gamma$  *Pegasi*. *Pegasus* is a *paranatellon* of *Aquarius* and *Pisces*, and its stars form the 26th and 27th lunar mansions of the Arabians etc. (Vide *E. S. R.* Pt. v. 10). The *Horse* occurs elsewhere in this Lunar Zodiac (Vide *inf.* p. 84). It is noticeable that a Jackal appears in the circular zodiac of Tentyra (Denderah) in a position which would correspond with the stars of *Pegasus*. The dog is frequently a point of departure in idea with respect to animal names. Thus, with the Sumero-Akkadai, as the Hyena is the 'Striped-dog' the Wolf is the 'Greedy-dog' and the Lion the 'Big-dog.' So, with the Eskimo, the Polar-bear is the 'White-dog'; and, in the *Vendidad* (*Fargard*, xiii), the Hedgehog is 'the Dog with the prickly back.' The Ak. *Likbarra* is also rendered by (Sem.) *Barbaru*, which is generally translated 'Leopard.' As with respect to colours, so in reference to animals, there is often a great vagueness of terminology in ancient literature.

### Asterism No. III.

3. *Kakkab Gam*. | *Kakku sa qâti Marûdûki*.

'The Asterism of the *Scimitar* (or 'Sickle'). | The-weapon of the hand of Merôdakh.'

Lenormant (*Répertoire des Caracteres de l'Écriture Cunéiforme*, No. 18) gives '*gam*, aller en circle, revenir periodiquement'; and the Rev. C. J. Ball (*Pro. S. B. A.* Nov. 1889, p. 11) compares the Ak. 'GAM, GIN, "to bend," "bow,"' with the Chinese '*yin*, "to bend a bow" (cp. Cantonese *k'am*, "to

lean over").' But the comparison may be greatly extended, and we see here an instance of the advantages arising from the identification of Sum.-Ak. as a member of the great Turanian family of languages. For, when we turn to the Turko-Tataric dialects, we find at once the root *kom*, *komb*, *kun*, 'round' etc., whence the Uigur *Kom*-ar, 'amulet,' i.e., that which is round; the Tchagatai *kom*, 'camel's hump,' *kombul*, 'knob,' etc. As in the Turanian languages *m*-final at times changes into *n* (e.g., *kom*—*kun*), *n* into *r*, and *k* into *j*, the Ak. *gam* and Turko-Tataric *kom*, *komb*, reappear in the Laponic *jo-r-ba*, 'rotundus,' and the Magyar *gor-be*, 'curvus' (Vide Budenz, *Magyar-Ugor Öss. Szótár*, p. 61); and so we find the Magyar *gomb*, 'a sphere,' *gömb-ölyu*, 'round,' the Zyrianian *görbyltny*, 'bent,' etc. etc. *Gam*, therefore, 'the weapon of Merôdakh,' is that which is 'round,' 'bent,' or 'curved,' namely, the *saparu*, sickle-shaped sword or 'Scimitar,' which 'is always represented both in the sculptures and inscriptions as a weapon of Bel-Merodach' (Smith and Sayce, *Chal. Ac. Gen.* p. 109), in his war against the dragon Tiâmat. As, of course, this same weapon the *khereb-harpé*, the 'portentous sickle' (πελώριον ἄρπην. Hês. *Theog.* 179) with which the solar Kronos assails Ouranos, is employed by the solar Barsav-Perseus in his fight with the *Sea-monster*, the reduplication of Tiâmat. Again, *Gam-gam* is the Ak. name of the Ostrich, As. *Sakatur*, which 'may be compared with the Arabic *saka*, "abiit, deducavit, deflexit a viâ recta," and may allude to the well-known habit of these birds of always *running in circles* when hunted' (Rev. Wm. Houghton, in *Trans. S. B. A.* viii. 101). *Gam-gam* (i.e., *Gam* intensive),= 'the Circler,'=the Ostrich. Whether this weapon of

the solar *Merôdakh* is the lightning or the crescent-moon is immaterial to our present purpose. It is here reduplicated in an Asterism; and, as noticed (*Sup.* p. 63), 'the uppermost part' of this Asterism is the *Ram*. This most important statement locates *Gam* beyond a doubt. Its 'uppermost part' is therefore  $\alpha$ ,  $\beta$ , and  $\gamma$  *Arietis*, which thus form the handle of the *Scimitar*, the blade of which will extend southwards to *Okda* ('the Knot,'  $\alpha$  *Piscium*). The weapon is thus suspended just over the head of the *Sea-monster*, its handle not being very far from *Perseus*. In this connexion we observe further that two lists of asterisms, solar and lunar, were familiar to the scribe who inserted glosses in the latter part of the Tablet. He thus carefully points out the connexion between the lunar asterism of the *Scimitar*, which does not appear in the solar list, and the solar asterism of the *Ram*, which does not appear in the lunar list. A *Kakkab Gam* is mentioned in *W. A. I.* III. lvii. No. 6, line 4 and in No. 9, Front, l. 12. These two *Gams* are not necessarily identical with each other, or with the Asterism of this Tablet. There may be two *Scimitars* (Cf. the *Sickle* in *Leo*), just as two *Bears*, *Dogs*, *Twins*, etc.

#### Asterism No. IV.

4. *Kakkab Mas-tab-ba-gal-gal-la.* | *Ilu Lugal-ner-ra û ilu Gal-lam-ta-ud-dû-a.*

'The Asterism of the *Great-twins*. | The god *King-of-the-ecliptic* (lit. 'yoke') and the god *Bull-of-the-Rising-sun*.

5. | *Ilu Sin û ilu Nergal.*

| 'The god the Moon and the god the Great-hero.'

There are many great and little twin-stars in the

heavens. The *Great Twins* of the solar Zodiac are *Castor* and *Pollux*, but here we traverse the same region, the ecliptic, from a different starting-point; and as we know exactly where we have now reached, *i.e.*, immediately to the east of *Aries*, we have no difficulty in recognizing the *Great Twins* of the lunar Zodiac as the two famous asterisms of the Pleiads and Hyads, or, perhaps, more strictly, of the Pleiad (Vide Vol. I. 57, 134) and *Aldebaran* ('The Follower'—of the Pleiad), the pair *Tê-Tê* (Vide *sup.* p. 14), so constantly coupled by the classic writers, from the Πληάδας θ' 'Υάδας of the *Iliad* downwards. In *W. A. I.* III. lvii. No. 7, Rev. l. 5-6, *Lugal-nerra* and *Gallamta* are explained as *Guttav* (*Jupiter*) and *Zalbat* (*Mars*). In *K.* 2407 *Lugal-nerra* is represented as asking the gods to solve a riddle. *Jupiter* is thus patron-planet of the Hyads and the red *Mars* of the red star *Aldebaran*. The Moon-god is also appropriately the patron-divinity of both, that is of the peculiarly lunar constellation *Taurus*. *Nergal*, otherwise *Nirwal* ('the Great-hero') lord of the Under-world and god of the planet *Mars*, is also naturally a patron-divinity of this nocturnal Sign, specially connected with *Mars*. *Nergal*, the Death-god, called 'Nergal of the Apparitions' (*W. A. I.* III. lxvii. 70), was also patron-divinity of the Ak. town *Gudûa* ('the Resting-place'), Sem. *Kûth*, where was a famous necropolis. Hence, 'the men of *Kûth*,' when transplanted into the land of Israel, still 'made *Nergal*' their special god (2 *Kings*, xvii. 30). *Mas*='twin,' *tabba*, *tamma*, 'comrade.' *Gal* (Cf. the Turkic *kulli* 'great') + *gal* (intensive)='very great.' *La*=the emphatic prolongation. The great stars are also gods; so in *W. A. I.* III. lxviii. 68 we find 'the god *Mastabba*.'

## Asterism No. V.

6. *Kakkab Mas-tab-ba-tur-tur.* | *Ilu Amar-ud ū ilu Nin-sar.*

‘The Asterism of the *Little-twins.* | The god *Ox-of-day* and the goddess *Lady-of-rising.*’

The *Little-twins* =  $\lambda$  and  $\phi^1$ ,  $\phi^2$  *Orionis*. This asterism affords a striking illustration of the light thrown upon the Tablet of the Thirty Stars by the seven existing Lunar Zodiacs, namely, the Persian, Sogdian, Khorasmian, Chinese, Indian, Arab and Coptic schemes, all of which are derived from it. In each of these arrangements of the heavens these three small stars of *Órion* follow the Pleiads and Hyads as the next lunar mansion (Vide *E. S. R.* v. 16). They are situate so close together that  $\phi^1$  is overlapped by  $\lambda$ , and they thus form a pair of little twins immediately in line with the *Great-twins*. The *Ox-of-day* is primarily the Sun (Merôdakh. Vide Sayce, *Rel. Anct. Babs.* p. 106), and is then reduplicated in the planetary Merôdakh (*Jupiter*). The simile is the sun ploughing the ecliptic-path. The *Lady-of-rising* is the planetary *Istar-Venus*. *Jupiter* and *Venus* are thus the two patron-planets of the *Little-twins*.

## Asterism No. VI.

8. *Kakkab Lugal.* | *Ilu Marûdûku.*

‘The Asterism of the *Mighty-man.* | The god Merôdakh.’

In *W. A. I.* III. liii. No. 2, l. 11 we find that Merôdakh, who is primarily the Sun, was reduplicated in various stars in different months, and in the month Dhabîtu (Tebet) was *Lugal* (‘The Mighty-man’), otherwise *Un-gal* (‘Man’ + ‘great’), = Sem. *Sarru*

(‘King’). Now the Tablet of the Thirty Stars has some special connexion with the three particular months Kislimu, Dhabîtu and Sabâdhu; and here, accordingly, we find Merôdakh the ruling-divinity of the Asterism of the *Mighty-man* or *King*. The name *Mighty-man* is practically repeated in numerous later names of the constellation *Ôrîôn*; and the Asterism in question will be either *Betelgeuse* ( $\alpha$  *Orionis*) alone, or with some other portion of *Ôrîôn*. Lacouperie observes that *Ôrîôn* appears as a ‘military chief alike in Babylonia and China’ (*Western Origin*, p. 340). In the General Sphere *Lugal*, as noticed, was the name of *Héraklés* (*Sup.* p. 10), and *Regulus* also is the *King*-star (Vol. I. 62).

#### Asterism No. VII.

##### 9. *Kakkab Khi-gall-â. | Ilu Gibil, Samsu.*

‘The Asterism of the *Canal-of-water*. | The god the Fire, the Sun.’

Prof. Hommel says, ‘*Chegalai* (Frucht-barkeitstern) wahrscheinlich Denebola ( $\beta$  Leonis). Oder  $\alpha$  im Becher? oder  $\beta$  virginis’ (*Die Astron. der alt. Chal.* iii. 16). In other words, he has completely lost the clue. But there is little real uncertainty when once the proper order has been obtained. The Asterism in question consists of  $\eta$ ,  $\mu$ ,  $\nu$ ,  $\gamma$ ,  $\xi$  *Geminorum*, situate in the Milky Way; and the *Canal-of-water*, called by the Egyptians ‘the inaccessible Stream’ (*Book of the Dead*, cap. xcviii.), primarily refers to the Galaxy. I do not in this Section refer to the derivative lunar schemes, which are all treated in detail in *E. S. R.* Pt. v. I would merely remind the reader that in most cases, as in the present instance, they throw great light backwards and illustrate the explanations

of the Sum.-Ak. Lunar Mansions here given. The ruling-divinity of the *Canal* is the Fire-god, so frequently identified, as here, with the Sun-god (For the reading *samsu*, vide *W. A. I. II. xxxi. 83A*). The name of the Ak. Fire-god Kibir, Sum. Gibil, Givil, Mongolian *ghel* ('fire'), according to Lenormant, reappears in the name of the Emperor *Ela-gabal-us*.

#### Asterism No. VIII.

10. *Kakkab Pal-ur-a. | Ilu Nâ-na-a.*

'The Asterism *The-Crossing-of-the-Water-dog.* | The goddess Nâna.'

*Pal*=(Sem.) *ebêru*, 'to cross'; *ur* or *lik*=(Sem.) *kalbu*, 'dog'; *â*=(Sem.) *mû*, plu. *mê*, 'water.' The star is *Procyon* (a *Can. Min.*), and the title alludes to a myth also found subsequently in many variant phases, and also told of other stars, that the *Little-dog* had crossed the *Canal* or *Stream* of the Milky Way, which separates him from his brother the *Great-dog*. Hence *Procyon*, who thus crossed *before-the-Dog*, is the wet, weeping, watery-eyed, 'canis ululans Mera' (Vide Vol. I. 279). Nâna ('the Lady') was in origin a phase of Istar.

#### Asterism No. IX.

11. *Kakkab Su-pa Bêli sa pân mâtâti i-sim-mu. Rubû bêli, Marûdûku.*

'The Asterism the *Lustrous-one* of Bêl which before the regions rules. The prince of lords, Merôd-akh.'

In l. 52 *Supa* is explained as *Namru* ('the Lustrous'), and the name affords an interesting instance of the close connexion between the Sum.-Ak. and the Turko-Tataric languages. The Bab. translation pre-

vents any possibility of doubt respecting its meaning ; and *Supa* is at once seen to be akin to the Turko-Tataric root *sub*, *suv*, *su*, 'water,' 'lustre,' 'honour,' Uigur *sub*, 'lustre,' etc. This Asterism will be *Castor* and *Pollux* ( $\alpha$  and  $\beta$  *Geminorum*), the *Great-twins* of the solar Zodiac. *Supa* is mentioned in *K.* 6507 and in *K.* 12,690.

### Asterism No. X.

12. *Kakkab Gu-sir-kes-da ili Anim*, | *Rab-û sa sam-ê rabi*.

'The Asterism *Yoke-of-the-enclosure* of-the-god Anu, prince of the great heaven.'

According to Prof. Hommel, at this point in the Tablet we enter on an 'Excursus,' and the scene, for some reason unknown, is suddenly shifted to the North Pole. This Asterism, the name of which he reads as '*Musir-sar-da* (sprich *Musir-sadda*)' or '*Musir-kisda*,' is, he states, the 'Grossen Gott Anu des Himmels,' the 'Joch des Himmels,' the 'Nord-pol,' and the Pole-star, which cir. B.C. 3000 was a *Draconis* (*Die Astron. der alt. Chal.* iii. 1, 5). So, again, 'Stern *mu-sir-sadda* (Nord polar-stern) Gott Anu' (*Ib.* 12). In *W. A. I. V.* xviii. 24 *Gusir kesda* is explained as *Nî-ru sa sam-ê* ('the Yoke-of-heaven'); and in *Ib.* V. xlvi. 47, as *Nîru raktsu* ('Yoke-binding'). In *Ib.* II. xlvii. 16, which is practically a quotation from the present passage, it is styled, similarly, 'the *Yoke-of-the-enclosure*,' *ili Anim* [a genitive, with the mimimation] *rab-û sa sam-ê* ('of Anu, prince of heaven'). It is thus clear that neither the 'Yoke,' nor the 'Enclosure,' is Anu ; but they are said to belong to him, nor can we easily imagine how any single star could well be described as a



'yoke.' Nor, in all this, is there anything about the North Pole or the Pole-star; but, on the contrary, as Prof. Sayce observes, 'the ecliptic was termed "the yoke of heaven"' (*Rel. Anct. Babs.* p. 48), an idea perfectly natural and comprehensible. Thus *Aldebaran* was technically called *Pidnu* ('the Yoke'), in archaic Chinese *Pit*, the ecliptic being regarded as a yoke laid across heaven, and its name being technically transferred to its first great star. That *kesda* means 'enclosure' (Vide *Rel. Anct. Babs.* p. 154, n. 1) further appears from the Ak. *khas*, 'to cut,' 'division,' and the Turko-Tat. root *kes*, *keć*, 'to cut,' 'to cut up,' 'small,' 'narrow,' *i.e.*, that which is cut up or cut off; whence such words as the Tchagatai *kes-ek*, 'apiece.' Hence, too, the Kirgish *kes-u*, 'lot,' 'destiny,' *i.e.*, that which is cut off for and appointed to anyone (Vide Vámbéry, *Etymol.* p. 98). This also explains why the common Crane was called in Ak. *Kesda*, *i.e.*, on account of its sonorous and (supposed) fatidical voice.

That the name *Yoke-of-the-enclosure* (=primarily the ecliptic) should be applied with a secondary reference, to the stars of *Cancer*, is both natural and appropriate, (1) because *Cancer* has always been regarded as a beginning or highest gate of the ecliptic; and (2) because there are no particular stars in this, 'the Dark Constellation,' to suggest at first sight a special stellar name. As noticed (*Sup.* p. 15), *Allab* (=Cancer) is explained as 'Voice-of-the-Sun-place,' *i.e.*, the ecliptic; and the 4th antediluvian king, who is equated with *Pollux* just at the beginning of *Cancer* is Umun-an ('Girdle-of-heaven.' Vide Vol. I. 333). The *Yoke* appears with other lunar zodiacal emblems on the monuments; and the stars which com-

pose this Asterism are  $\gamma$ ,  $\delta$ ,  $\eta$ ,  $\theta$  and  $\Phi\acute{\alpha}\tau\eta\eta$  *Canceri*. The name of 'Yoke' was connected with the *Crab* even in Classic times. Thus Manilius :—

'Nunc canero vicina canam, cui parte sinistra  
Consurgunt iugulae' (*Astron.* v. 174-5).

### Asterism No. XI.

13. *Kakkab Tur-us mal makh.* | *Ilu Dānu.*

'The Asterism *Son-of-the-supreme-temple.* | The god the Divine-judge.'

The identifications of the xth and xiith Mansions leave the notable star *Alphard* ('the Solitary,'  $\alpha$  *Hydrae*) for this. The name implies a single star. The archaic Chinese name of this star is *Tah*,=Ak. *Tur.*

### Asterism No. XII.

14. *Kakkab Gis-bar, namru, sa pān Mul-mo-sar-ra.* | *Ilu Nuzku.*

'The Asterism *Wood-of-light*, the brilliant, which (is) before the *Lord-the-voice-of-heaven.* | The god *Brilliance-of-the-daybreak.*'

Prof. Sayce observes, 'Fire was produced in Babylonia, as in other countries of the ancient world, by rubbing two sticks one against the other. The fire-stick, therefore, whose point was ignited by the friction, was regarded with special veneration. The idea of "fire" was expressed by two ideographs (GIS-BAR and GIS-SIR) which signified literally "the wood of light." This "wood of light" was exalted into a god' (*Rel. Anct. Babs.* pp. 180-1), sometimes identified with Gibil, the fire-god, sometimes adored separately under the name of Saval, Sem. Savullu, Heb. Shâool, Eng. Saul. The ideograph *bar* repre-

sents the two sticks laid across each other; and the combination read phonetically *Gisbar* represents, as Bertin has observed, a 'kind of weapon, or disk, which was thrown at the enemy.' In a Hymn to Merôdakh the god Anu is made to exclaim:—

'In my right hand the god who binds the hosts of the firmament  
I bear.

The Sun-god of fifty faces, the falchion which proclaims me as  
Anu I bear.'

(*W. A. I. II. xix. No. 2, Rev. 1 8, 10, ap. Sayce.*)

The sun is the original disk hurled at darkness by the heaven-power. But, further, another partly circular weapon of the Heaven-power and of the Sun-god in the great contest against chaos and darkness is the Bow, called in *W. A. I. II. xxxix. 31 Gisme*, and explained as the Sem. *qastu*. This bow is the lunar-crescent. A third weapon is the lightning, and the 'god *Gisbar*' is explained as *Bil-gi* (=Gi-bil), the Fire-god (Vide Brünnow, *Class. List*, p. 95), one of whose potencies is the lightning. We have here, then, some curved, disk-like weapon of the Light-powers, reduplicated in an asterism; and the faithful stars present us readily enough with an answer in the shape of  $\eta, \gamma, \zeta, \mu, \epsilon, \lambda$  *Leonis*, known with a *Leon*. as the *Sickle*, in which, again, we have a reduplication of the 'sickle-shaped' sword of Merôdakh-Perseus. *Mulmo-sarra*—the 7 *Wain*-stars, which are immediately above *Leo. Nuzku*, primarily the Fire-god (Vide *Rel. Anct. Babs.* p. 119, n.),—and hence his lordship over this Asterism,—was afterwards a solar dawn-god, and subsequently 'the Lord of the Zenith' (*Elat samê*, 'the height of heaven'), and, technically, the zenith itself.

## Asterism No. XIII.

15. *Kakkab Gub-ba(ra) mes-su-tu Ê-kûr. | Ilu Sin à ilu Nergal.*

‘The Asterism *Fire-flame*, ruler (?) of the *Temple-of-the-hosts-of-earth*. | The god the Moon and the god the Great hero.’

Prof. Sayce renders *Gubarra* ‘Fire-flame,’ and observes that the Sum. *Gubarra* is an older form of the Ak. *Mubarra*, and that the form *Gisbar* (*Sup.* p. 79) shows that the original name was *Gusbarra*; *gus*, ‘the sky,’ *gus*, ‘fire,’ and *gus-qin*, ‘the yellow metal’ (gold) being connected words. Kibir-ra and Gibil are ‘dialectal forms of *Gubarra*.’ With *gus* compare the Uigur *kis*, *kiz*, ‘fiery,’ ‘warm’; the Tchagatai *kizi*, ‘warm,’ the Kazan *kizil*, ‘red,’ the Kirgish *kizil*, ‘beautiful,’ the Aderbijan *kizil*, ‘gold,’ ‘red,’ the Osmanli *kiz-mak*, the Koibal-Karagass *kezel*, ‘red,’ etc. As *Gubarra* is practically a variant of *Gisbar*, so the *K. Gubbara* may be expected to be closely connected with the *K. Gisbar*, and is *Regulus* (*a Leonis*), the *King* in the late Bab. astronomy, the handle of the *Sickle*. *Ê-kûra*, lit. ‘House-of-the-mountain,’=temple. For the rendering above, vide Sayce, *Rel. Anct. Babs.* p. 362. ‘Le *ê-kur* cosmique est la terre et la region souterraine’ (Lenormant, *Les Origines*, ii. 232, n. 1).

## Asterism No. XIV.

16. *Kakkab ili Ku-a mes-su-tu Ê-kur. | Ilu A-nu à Bêlu.*

‘The Asterism of the Oracle-god, ruler (?) of the *Temple-of-the-hosts-of-earth*. | Anu and Bêl.’

Kua=Marûdukh (Vide Brünnow, *Class. List*, p.

434). Bertin was inclined to read *mes-sutu e-mad* (instead of *Ê-kur*) here and in l. 15, and to render it 'the change (who) fixed.' The reader will remember that this Tablet is archaic, and in parts extremely difficult to translate. The Asterism will consist of  $\delta$  and  $\theta$  *Leonis*.

### Asterism No. XV.

17. *Kakkab Lamas-su, mikid-isâti ili Ba-u. | Ilu Ur-ma-akh-u, ilu Gu-la.*

'The Asterism the *Flaming-one*, the burning-of-fire of the goddess Bahu. | The god the *Great-lion*, the goddess the *Great-one*.'

The customary rendering of *lamma*, *lamas*, Sem. *lamassu*, is 'colossus,' itself a word of unknown etymology, and merely a paraphrase, the *lamassi* being the colossal statues at the entrance of temples, personifications of the propitious guardian Genii of the place. But *lamas* is translated by the scribe 'the burning-of-fire'; and we are able to prove the correctness of his rendering by comparison with the corresponding words in certain dialects connected, though distantly, with the Sum.-Ak. *Lam*, *Lamma*, *lamas*, = the Magyar *láng* (=Lat. *flamma ignis*), Finnic *loimu*, 'strong-flame,' *loimua*, 'to flame.' The Turko-Tatar dialects do not employ an initial *l*, but replace it by *j*. Thus, the Magyar *lélek*, 'soul,' = Osmanli *jel*, 'wind,' Ostiak *ljil*, 'ghost,' = Sum.-Ak. *lil*, 'ghost,' whence As. *lilātu*, Heb. *lileth*. Hence, a Sum.-Ak. *lam*, *lav*, becomes in Turko-Tat. *jav*, *jar*, *jal*, 'to gleam,' 'burn,' 'flame,' etc., e.g., Tchagatai *jalau*, 'flame.' The *Lamassi*, therefore, are 'the Burning-ones'; and the name is equivalent to the Heb. Serâphîm, who have been incorrectly explained by certain modern writers

as dragons (Vide Goldziher, *Mythology among the Hebs.* p. 197). *Bahu*, the Bohu of *Gen.* i. 2, the Phoenician Baau, 'the Void,' was the equivalent of the Ak. Gurra ('the Watery-deep'), and was called (Ak.) Gula. The first ruling-divinity of the Asterism is of great interest. I have said that the principal stars are also called gods, and the Ak. *Ur-* or *Lik-makh* (lit. 'Great-dog'), in Sem. form *Urmakhu* or *Urmakhkhu*,=the *Lik-gula* (Vide *sup.* p. 16), i.e., the *Lion*, who thus appears as the ruler of this Asterism, which will be *Denebola* (=Ar. *Zanab-al-asad*, 'the-Tail-of-the-Lion'),  $\beta$  *Leonis*. Here, then, we find the zodiacal *Leo* unmistakably connected with this point in the Tablet, a circumstance which adds another conclusive proof of the correctness of the principle employed in its explanation. The connexion in idea between Fire and the Lion, and between the Lion and 'the hottest pathways of the sun' (*H. D.* 149), I have often had occasion to notice.

#### Asterism No. XVI.

18. *Kakkab Nin-sar û ilu Ur-ra-gal. | Ilu Nergal û Akh-bi-tum.*

'The Asterism *Lady-of-heaven* and the god of the *Great-city*. | The god *Great-hero* and *Akhbitum*.'

We now come to Istar-*Virgo*. *Urragal*=Nergal. 'A punning etymology connected his name with "the great city" (*uru-gal*), as if it had been Ne(r)-*uru-gal*, "the Ner-of-Hades"' (Sayce, *Rel. Anct. Babs.* p. 195). *Akhbitum*, a name which I am at present unable to explain with certainty, is 'evidently the same as Istar' (Pinches). Thus, *Ninsar* (practically)=*Akhbitum*. The ruling-divinities, as frequently, are reduplicated in the star-group, which will consist of

$\eta$ ,  $\gamma$ ,  $\delta$ , and  $\epsilon$  *Virginis*. In *W. A. I.* III. lvii. No. 6, l. 59, *Ninsar* and *Urragal* are mentioned as forming one of the 7 groups of *Twins* (*Másû*).

#### Asterism No. XVII.

19. *Kakkab Sakh, ilu Da-mu. | Ilu A-nu.*

'The Asterism of *Prosperity*, god of the *Sky-furrow*. | The god *Anu*.'

In *W. A. I.* IV. xxx., Rev. 2 we read of 'my hero, the god *Damu*,'=*a Virginis* (*Spica*). 'The *Sky-furrow*'=*the ecliptic*, to which *Spica* is close; and *Daônos*, the 6th antediluvian king, *Dun* (=Dannu), 'the Hero,' or 'Mighty-one,' is equated with *Spica* (Vide Vol. I. 66). The Eg. name of the star, *Repâ* ('the Lord,' 'Governor'), is somewhat similar in signification.

#### Asterism No. XVIII.

20. *Kakkab Ansu Kur-ra. | Ilu Im-dugud-khu.*

'The Asterism of the *Animal-from-the-east*. | The god the *Great-storm-bird*.'

On the Stone figured in *W. A. I.* V. lvii. the Horse (= 'the Animal - from - the - east') and the *Crow* (= *Corvus*) are depicted next each other; just as here the one is the patron-divinity of the Asterism of the other. The stars in question are  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$  *Corvi*. *Imdugudkhu*, Sem. *Ramânu ikabbid* ('the Storm-god is terrible') and *Zû* (*Sup.* p. 26), appear in a stellar aspect in *W. A. I.* III. liii. No. 1, Ob. l. 26-7, where we read 'That star [true to its name] for mist and tempest is' (Sayce). There is thus a close connexion between the lunar Zodiac asterism of the

*Horse* and the constellation *Corvus*, the *K. Kurra* being ultimately identical, as identified, with the *K. Imdugudkhu*.

### Asterism No. XIX.

21. *Kakkab Lu-lim.* | *Mul-mo-sar-ra.*

'The Asterism of the *He-goat*. | The *Lord-the-voice-of-heaven*.'

For the meaning 'He-goat,' vide *sup.* p. 65. This Asterism= $\iota, \kappa, \lambda$  *Virginis*, and is called in the Persian and Indian schemes 'the Good-goer,' i.e., the leading Goat of the flock; in the Sogdian scheme 'the Leader'; in the Khorasmian scheme 'the leading He-goat of the flock'; and in the Ar. scheme 'the young Ibex.' We see, therefore, how the Derivatives confirm the view of the original here taken. As we saw (*Sup.* p. 80), *Mulmosarra* is the *Wain*, and the tail-stars of the *Bear* almost extend over the Asterism.

### Asterism No. XX.

22. *Kakkab Mulu-izi ū ilu La-ta-rak.* | *Ilu Sin ū ilu Nergal.*

'The Asterism *Man-of-fire* and the god *Latarak*. | The god the Moon and the god the *Great-hero*.'

This Asterism=(probably)  $\mu$  *Virginis* and  $\delta$  *Librae*; and with it is associated the god *Latarak*, a name of unknown meaning. As appears from the Planisphere *K.* 8538, *Latarak* was connected with this part of the heavens; and in *K.* 9741 he is mentioned with (As.) *Ilu Nis dispi* ('the Honey-god'). In *W. A. I.* IV. lviii. 59 he is styled 'the divine king of the desert (Eden).'



## Asterism No. XXI.

23. *Kakkab Bélit.* | *Emuk Tin-tir-ki.*

'The Asterism the *Lady*. | *Might of the Grove-of-life.*'

The *Lady* is 'Beltis of Babylon' (= *Tintirki*), and the Asterism  $\alpha$  and  $\beta$  *Librae*. The zodiacal constellation of the *Lofty-altar* (Vide *sup.* p. 33),=the Tower of Babel, is particularly connected with Bâbilu (Babylôn).

## Asterism No. XXII.

24. *Kakkab En-te-na-mas-luv.* | *Ilu Ip.*

'The Asterism *Lord-of-the-foundation-of-brickwork.*  
| The god the *Creator.*'

This Asterism is also called *Entemasmur* (*W. A. I.* III. lvii. No. 6, l. 55), and the name refers to the famous Ziggurât or 'terraced tower' of Babel-Babylôn, the original *Altar-tower* of the 7th or *Libra* month (Vide *sup.* p. 25). *Masluv*=*As. apparrû*, Heb. *Ophor* ('Clay,' 'Morter'). As a lunar Asterism *Entenamasluv* = 20 *Librae* and the stars adjoining (Vide R. B. Jr., 30 *Stars*, pp. 32-3); but it is also a constellation, and, as such, = *Hydra*, wholly or in part. The connexion between the famous Tower, Babylôn, and the autumnal season, the 7th month, explains the position of this Asterism at the base of the Constellation *Chelai-Libra*; and further light is thrown upon the matter by the name of the 16th Chinese lunar asterism, consisting of  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\zeta$  *Librae*, and the archaic name of which is *I-shi* ('the Foundation'). *Entenamasluv* was called (Sem.) *Stru-etsen-tsiri* (*W. A. I.* II. xlix. 47), 'the Limb Tip-of-the-Tail.' This is not a translation of the Ak. name, but an explanation of the position of the Asterism, as being at the end of the tail of

*Hydra*. As Jensen saw, it must be 'in der Nähe der Ekliptik' (*Kosmol.* p. 54), and cannot be the tail of the *Great Bear*, or of the *Swan* (Hommel), nor, again, is it the tail of the *Lion* (Hommel), *Antares* (Bertin), or *Aldebaran* (Oppert). This double or triple aspect of *Entenamashuv* gives rise to various statements concerning it which, except under most careful investigation, appear to be contradictory. Thus, we are told that in the month Tammuz, with which it is specially connected, at its rising it raises the waves of the sea' (*W. A. I.* III. lvii. No. 1, l. 12). This idea is connected with *Hydra*, as 'the strong serpent of the sea' (*Ib.* II. xix. No. 2, Ob. l. 8). As an ecliptic-asterism it 'holds' *Jupiter* (*Ib.* III. lii. No. 1, l. 17-18); and is particularly connected with Tisri, the 7th month (*Tab.* 81-1-6, 102). Its connexion with Tammuz, the 4th month, is illustrated by the fact that, as *Hydra*, it extends right up to *Cancer* (= *Allab*. Vide *W. A. I.* III. liii. No. 1, l. 74). The patron-divinity of this Asterism is the god Ip. 'Ip and Nin-ip were two primaeval deities who in Accadian kosmology represented the male and female principles, but the genderless character of the Accadian *Nin*, "lord" or "lady," caused the Semites to change NIN-IP into a god and identify him with IP, that is "Anu who listens to prayer"' (Sayce, *Rel. Anct. Babs.* 151-2, n.; *W. A. I.* II. liv. 35).

#### Asterism No. XXIII.

25. *Kakkab Gis-gan-gusur kakku sa ili Êa | sa ina libbi-su absi iskun*;

'The Asterism of the *Tree-of-the-garden-of-light*, weapon of the god Êa, | which in the midst of the abyss he-placed.'

26. *Mul-mul-la | kakku sa qâti Marûdûki.*

‘The spear, | weapon of the-hand of Merôdakh.’

It may be that *gis*, Sem. *etsu*, ‘tree,’ ‘wood’ is merely used here as a determinative prefix to show that *gangusur* was (originally) some wooden object; and the name could be read ‘Light-of-the-hero’ (Ak. *gusur*, =Turkic *ghazi*, ‘hero’). The stars in question are  $\beta$ ,  $\delta$ ,  $\pi$  *Scorpionis*, which form a spear of light. The *mul-mullum* (light-ray) was one of the weapons of Marûduk in his fight with the dragon Tiâmat. The reader will observe the constant principle of the reduplication in special stars of familiar natural phenomena (Vide *inf.* Chap. XVII.), which, anthropomorphically regarded, gave rise to myths of battle etc.

## Asterism No. XXIV.

27. *Kakkab Dar-lugal. | Bîlu sa ziri: arakh Tisrîtu, ilu Lugal-tud-da.*

‘The Asterism of the Great-one, the King. | The Lord of seed: month Tisri, the god the Lusty-king.’

This mansion consists of *Antares* (*Cor Scorpionis*), which is represented as a stellar reduplication of the god Lugal-tudda (Vide *Sem.* pp. 74-7); and the lord of seed in the 7th month (Sept.-Oct.). To understand these complicated allusions the reader must remember that the 7th month was originally represented by an Altar, often circular (=the solar photosphere) grasped by the *Claws* of the *Scorpion* (Vide Vol. I. 67 *et seq.*). The original golden seed of heaven is the Sun, which, as in various mythologies, is seized and swallowed by the darkness in monstrous and dracontic form. This is the primary meaning; and it is in the month Tisri that the waning autumn Sun begins to

succumb to his foes. There may, or may not, be also a secondary reference to agricultural operations; but these do not form the basis of archaic symbolism, inasmuch as man's observation of nature long preceded any regular agricultural course. Lugal-tudda, Sem. Zû, was also the thief and god of the lightning, and the giver of fire to man; and the ideograph *gir*, pictorially representing 'blade,' 'sting,' or 'pointed tail,' means 'to strike,' 'scorpion,' 'plough,' and 'lightning,' 'the torment of a scorpion, when he striketh a man' (*Apoc.* ix. 5) being compared with the burning of lightning. The Zû-bird is the 'divine Storm-bird,' and, as we have seen (Vol. I. 333) *Antares* is equated with the 7th antediluvian King Euedôranchos ('Day-heaven-bird').

#### Asterism No. XXV.

28. *Kakkab Mulu-bat.* | *Pa-gar, a-sig.*

'The Asterism *Man-of-death.* | The corpse, the fever.'

The name might mean 'the Old-man,' and the stars of the Asterism are  $\epsilon$  and  $\zeta$  *Ophiuchi*. As we have seen (*Sup.* pp. 21-22), the *Snake-holder* is called *Nut-sirda*; and in l. 44 'the constellation Nutsirda' is connected with 'the god Sagimu,' apparently the lord of invocation, whose name is ideographically expressed by 'mouth' and 'invoke.' The Asterism has no ruling-divinity; but the *Man-of-death* presides over dead bodies and disease.

#### Asterism No. XXVI.

29. *Kakkab-Tsir.* | *Ilu Nin-ki-gal.*

'The Asterism of the *Snake.* | The goddess *Queen-of-the-great-region.*'

30. *Ilu Nabiu û ilu Sar.* | *Ilu Samas û ilu Ramânu.*

'The god the *Prophet* and the god the *King*. | The *Sun-god* and the *Exalted-god*.'

This Asterism= $\eta$ ,  $\xi$ ,  $\theta$  *Ophiuchi*, and the *Snake*=*Ophis*. The regent-divinity is Ninkigal, Sem. Allat ('the Unwearied'), also called Nin-lil ('Queen-of-the-ghost-world') and Nin-gê ('Queen of the Under-world'), the 'Great-region,' being Scheól-Hadês. I have noticed (*Sup.* p. 39) a representation of Ninkigal snake in hand. As Gladstone has pointed out (*Hom. Synchronism*, p. 235), Ninkigal possesses the prominence and dread character of the Homeric Persephoneia, a phase and aspect which the latter goddess has borrowed from her eastern sister. As noticed (Vol. I. 104-5), the Ak. Ôkeanos is sometimes compared to a snake; and the 'River of the Snake' is also called 'the River of the Sheepcote of the Ghost-world,' a line of thought which connects the Snake with the Under-world and its goddess-mistress. But the Snake has so many aspects in the thought of early man, beneficial and honoured, as well as malignant and dreaded, that it is not surprising to find various and highly different divinities connected with it. The 'Prophet' is Nebô, the 'King' Merôdakh, and the 'Exalted'-one the Air-god (Ak.) Mermer.

#### Asterism No. XXVII.

31. *Kakkab Gir-tab.* | *Ilu Is-kha-ra tam-tim.*

'The Asterism of the *Scorpion*. | The goddess [Also a god.] Iskhara-of-the-sea.'

32. *Ilu Sar-ur û ilu Sar-gaz.*

'The god *Director-of-fire* and the god *Director-of-sacrifice*.'

The Asterism consists of  $\theta$ ,  $\iota$ ,  $\kappa$ ,  $\lambda$  and  $\nu$  *Scorpionis*. *Iskhara* is a name of Istar (*W. A. I.* II. xlix. 14), apparently when, like Êa, in a piscine form and character (*kha* means 'fish'), as a Derketô (Vide *Sem.* p. 102). The Classical writers were acquainted with a myth to this effect which, I think, has not yet been discovered in the monuments. Thus Hyginus connects *Pisces* with the Euphratês, giving a legend that Venus (=Istar, Derketô) and Cupid took the form of fishes in that river. 'Venerem cum filio in flumen se proie-cisse, et ibi figuram piscium forma mutasse' (*De Sig.* xxx. ; vide Vol. I. 115).

Bertin thought that *Sar-ur* might mean 'Leader-of-the-Dog,' in which case the name may contain a reference to the setting of *Canis Maj.* after the advent of *Scorpio* (Vide 30 *Stars*, pp. 38-9). These divinities are star-gods (Vide *inf.* p. 140).

### Asterism No. XXVIII.

33. *Kakkab Ligbat, ilu Ku-su. | Ilu Kur-gal.*

'The Asterism *Beast-of-death*; the god *Sunset*, god of the *Great-country*.'

Prof. Hommel supposes that *Ligbat*, otherwise *Urbat*, which he calls the *Jackal*, is *Antarês* (*Astron. der alt. Chal.* iii. 16). Such a conjecture is merely a guess; and, as we have seen (*Sup.* pp. 7, 23), *Ligbat* is no part of *Scorpio*. This Asterism consists of  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$  *Lupi*. The Wolf, called in As. *Akiluv* ('the Devourer'), is very generally a type of Darkness which swallows up things; and the ruling-divinity of this creature of night and death is Kush (Vide *K.* 10,038), an Ak. god of sunset and night, and hence a god of the Under-world or 'Great-country.'

## Asterism No. XXIX.

34. *Kakkab A-nu-ni-tum û kakkab Si-nu-nu-tum.* | *Nâhru Mas-gu-gar û nâhru Ud-kip-nun-na.*

'The Asterism of the *Great-goddess* and the asterism of the *Swallow*. | The river the *Current* and the river *Light-of-the-great-plain*.'

The Ak. divinity Anûna (=An-nuna, 'the Great-god') of Sippara was made by the Semites into the female Anunit ('Great-goddess'), and identified with Istar. She is described by Nabûnâhid (Nabonidos) as 'the mistress of battle, the bearer of the bow and quiver, . . . who made omens favourable at sunrise and sunset' (Vide Sayce, *Rel. Anct. Babs.* pp. 182-4); and this represents her in a planetary phase, as *Venus*, 'star of the morn and eve.' But she is further re-duplicated in a stellar form as the Star of the Tigris, the *Current* being the 'rapidus Tigris.' In *W. A. I.* II. li. 58 'the Star of the river *Masgugar*' is explained as 'the goddess Anunitum.'

The Asterism in question will be  $\lambda, \mu$  *Sagittarii* (=Papilsak, vide Vol. I. 78), a constellation naturally connected with 'the bearer of the bow.' *Sinunutum* ('the Swallow'), also called (Ak.) *Nam-khu* ('Destiny-bird'), Sem. *Sinuntuv*, Rabbinical Heb. *Senunitha*, in a stellar aspect= $\gamma, \delta, \epsilon$  *Sagittarii*. The two Asterisms are side by side, like the Tigris and Euphratês, to which they are respectively dedicated. A Bird, which may be the Swallow, appears with other lunar zodiacal figures on the monuments. The annual migrations of the Swallow connect it alike with destiny (as a prophetic bird), and with the autumn (*Sagittarius*) season. The river *Udkip-nunna*=the *Purattu* (Vide *K.* 3316, 'the Curving,' thus peculiarly

connected with the bow), Heb. *Peráth*, Median *Uprato*, Old Per. *Ufratu*, Gk. Euphratês.

### Asterism No. XXX.

37. *Kakkab Gu-sir-a-ab-ba*. | *Kakkab Nun-ki*.

'The Asterism *The-Yoke-of-the-sea*. | The Asterism the *Lordly-city*.'

This is the first line of the Rev. of the *Tablet*, l. 35-6 in the printed form are only spaces and contain no text. The Asterism consists of the stars  $\zeta$ ,  $\sigma$ ,  $\pi$  *Sagittarii*, which form a 'yoke' thrown across the ecliptic near the commencement of the great Sea extending thence to *Aries* (Vide Vol. I. 84). *Gusirabba* is identified with *Nunki*, pronounced *Nunpé*, according to *Tab.* 82-8-16, 1 Ob. 21, and referring to the city of Eridu, a most ancient centre of the Êa-cult, and once 'at the mouth of the Euphrates and on the edge of the Persian Gulf' (Sayce, *Rel. Anct. Babs.* p. 135), and thus a 'Yoke of the Sea.' Hence the rôle of *Gusirabba* as the patron asterism of the seaport town of Eridu. The ecliptic thus appears as a 'Yoke' at *Cancer* (*Sup.* p. 77) and at *Capricorn*.

### Asterism No. XXXI.

38. *Kakkab Ma-gur*, *kakkab Muna-kha*. | *Ilu Nabiu û ilu Ur-me-tum*.

'The Asterism *Ship-of-the-bond*, i.e., the asterism the *He-goat-fish*. | The god the *Prophet* and the god the *Hero-voice-of-fear*.'

Here, as in No. XXX. we see that a star, asterism or constellation had frequently more than one, and often even many, names. This asterism is of course *Capricorn*, which thus indubitably marks the end of the Lunar Zodiac. The other name for it *Makhar* or



*Magur*, and which I have compared with *Makara*, the Indian name for *Capricorn* (30 *Stars*, p. 13), appears to mean *Ship-of-the-rope*, the Ôkeanos-stream being at times compared to a rope wound round the earth (Vide Sayce, *Rel. Anct. Babs.* p. 116). The old Ak. rope-god Innina became connected in idea with Nabû (Nebô. *Ib.* p. 117); and thus Nabû is the first patron-divinity of the Asterism, the second being apparently a Thunder-god, whose name would also mean 'the Lion-voice-of-fear,' the roaring of the lion being naturally connected with the sound of thunder. The god *Urmetum* is also mentioned in *K.* 1273. The *Goat*, it may be remarked, is a figure frequently connected with storm (Vide Vol. I. 218); and the 10th month, that of *Capricorn*, 'was stormy and wet' (Sayce, in *Trans. S. B. A.* iii. 164).

We have now made the circle of the Lunar Zodiac, and reached the end of the first part of the Tablet. As previously stated, great light is thrown back upon it by the lists of the 7 derivative and daughter schemes (Vide *E. S. R.* V.), which it is not my purpose to treat of here. The foregoing identifications make no pretence to mathematical accuracy in all respects; but, as a whole, they speak for themselves. The learned reader will be well aware of the immense difficulties of the task. As the Greeks did not adopt a lunar zodiac, the great majority of these asterisms are unknown in the West; but we observe amongst them some constellations with which we are already familiar, namely, *Pallika* or *Palura* (= *Procyon*), *Mulu-bat* (= *Serpentarius*), *Tsir* (= *Serpens*), *Girtab* (= *Scorpio*), *Ligbat* (= *Lupus*), and *Munakha* (= *Capricorn*). Other familiar names appear differently applied. Such are *Mastallagalgal*, *Lugal*, *Ansu-*

*Kurra*, *Tstr*, and *Lulim*, which are bestowed on one set of stars in the Lunar Zodiac, and on another in the general Euphratean Planisphere. *Imdugudkhu* (Vide *sup.* p. 17) appears as a god, not as a constellation; and a circumstance such as this, coupled with many other similar indications, tend to show that a higher antiquity is to be attributed to this Lunar Zodiac than to the Solar Zodiac as we have it. The lunar list presents us with a series of highly archaic Sum.-Ak. asterism-names; and, very ancient as the Tablet is, it was compiled by Sem. scribes from a lore then long since grey-headed, and their glosses and attempts at explanation frequently reveal quite an inadequate understanding of the system as a whole.

#### SUB-SECTION II.—A FURTHER LIST OF STAR-NAMES.

The scribe having completed the list of asterisms forming the Lunar Zodiac with their patron-divinities, next proceeds to add a supplementary list of stars. It is impossible to detect any definite principle in this latter compilation. It includes planets, some stars which had been previously named, and some which had not; but it is neither a zodiacal nor an extra-zodiacal list. The names are accompanied by certain explanations, which doubtless imported much more to the Babylonians than they do to ourselves.

39. *Kakkab Sak-vi-sa*. | *Na-as, tsa-ad-du da-da-mê*.

'The-planet *Mercury*. | The raiser, hunter of-men.'

For the names etc. of the planets, vide Vol. I. 345-8. *Nas*=(lit.) 'raising'—the Sun, *i.e.*, the heliacal rising of *Mercury*. Cf. the 'Zaidu, catcher of men' of the Gilgames Epic (*Chal. Ac. Gen.* p. 208).

There are various ways in which a Morning-star may be said to 'hunt men.'

40. *Kakkab Dil-bat.* | *Na-ba-at.* *Kak-ka-bu.*

'The-planet *Venus.* | She-announces [= 'the Proclaimer']. A star(-name).'

41. *Kakkab Lu-bat.* | *Mas-ziz bu-lim.*

'The-planet *Jupiter.* | *Protector of-cattle.*'

This planet, *Nîbiru* ('the Strider-along') is a special guardian of the heavenly, as well as of earthly, flocks (Vide Maspero, *Dawn of Civ.* p. 545).

42. *Kakkab Zal-bat-a-nu.* | *Mus-ta-bar-ru-u mâtâ-nu.*

'The planet *Mars.* | The Reveller-in-death.'

43. *Kakkab Ud-gu-dû-a.* | *Yu-mu na-ah-ri.*

'The Constellation *Smiting-sun-face.* | *Day-of-Dawn*' (=Dawn-of-day). Vide *sup.* Vol. I. 78; *sup.* p. 5.

44. *Kakkab Nu-tsir-da.* | *Ilu Sa-gi-mu.*

'The Constellation *Prince-of-the-serpent.* | *The god of Invocation*' (Vide *sup.* p. 89).

45. *Kakkab Pal-ur-a.* | *Kak-kab Pal-tuv (Baltum).*

'The Asterism the *Crossing-of-the-Water-dog.* | The star of Fertility.'

46. *Kakkab Pur-êdin.* | *Ba-na-at ri-khu-tuv.*

'The Asterism *River (Strong-one)-of-the-plain.* | It-creates riches.'

*Pur-êdin* (Vide *sup.* p. 23) is connected with the Asterism *Sinunutum* (*Sup.* p. 92), the star-group sacred to the Euphratês, the 'Light-of-the-great-plain'; and is also mentioned in *Tab. Rm.* 2, 114.

47. *Kakkab Gu-sir-kes-da.* | *Ilu Nî-ru rakî-su.*

'The Asterism *Yoke-of-the-enclosure.* | The god *Yoke-binding.*'

Vide *sup.* p. 77. A good instance of how a star or star-group is generally also a divinity.

48. *Kakkab Kha-ba-tsi-râ-nu, ilu Nin-gir-su, ikh-bu-tu êdini. Ilu A-nu.*

'The Asterism the *Lily*, the god *Lord-of-the-bank*, sprout of the plain. The god Anu.'

In *W. A. I.* II. xlix. No. 3, l. 47 the *Kakkab Entenamaslûv* (Vide *sup.* p. 86) is rendered by the Sem. *Khabatsirânu*, which as Prof. Sayce observes, 'grows up like a tail.' He remarks, 'It was probably as Nin-Girsû that he [Tammuz] became the patron and lord of the green marsh plants which flourished in the neighbourhood of Tel-loh' (*Rel. Anct. Babs.* p. 244). In *Tab. Sm.* 1925 Ningirsu appears as a star-god, and, being Tammuz, probably=*Ôrtôn*. *Êdin* means 'plain' as well as 'desert'; the 'Garden' was planted 'in Eden' (*Gen.* ii. 8).

49. *Kakkab Lu-nit. | Saqû-sa-rîsi kakkabi Gam.*

'The Constellation of the *Ram*. | =The uppermost part of the Asterism of the *Scimitar*.'

Vide *sup.* p. 63. *Lunit* ('Male-sheep') is *Aries*, and not *Lulim* (Vide *sup.* p. 66), which latter does not form any part of the *Scimitar* (Vide *sup.* p. 85). This very needful and most useful gloss is introduced by the scribe in order to prevent any confusion between the solar and lunar Zodiacs.

50. *Kakkab Dil-gan. | Kakkab Ma-a-tu : Ma-a-tu Tin-tir-ki.*

'The-Star *Messenger-of-light*. | =The Star *Tempest : Tempest of the Grove-of-life*.'

*Dilgan*=*Askar*, Sem. *Iqû* (the Star of the 'Gate'), also called *Dilgan Bâb-ili*, being the patron-star of 'the Gate of the gods' (*Bâbilu*), the city also known as the 'Grove-of-life' (Vide *sup.* p. 86). *Askar*

(Vide *sup.* Vol. I. 130) is the 'Goat'-star, *Aix*, *Capella* (*a Aurigae*). Mâtu, the Tempest-god, had been the agent of vengeance against mankind at the Flood, and tempests had destroyed the Tower of Babel. Hence, the Tempest-star, the stormy *Goat*, is sacred to him and to Babylôn.

51. *Kakkab Kak-si-sa*. | *Kakkab mes-ri-e*.

'The Star the *Leader*. | =The Star the *Leader*.'

This very important star, the name of which may also be read *Dusisa* or *Kaksidi*, is by Prof. Sayce, M. Halévy, the late Geo. Bertin, and others identified with *Sirius*. Dr. Oppert, at one time, thought it was the *Little Bear*, whilst Jensen incorrectly identifies it with *Antares*. Prof. Hommel regards it as *Procyon*, and the sole question is between the rival claims of *Sirius* and *Procyon* (Vide *inf.* pp. 120-31). Prayers are addressed to *Kaksisa*, as a male divinity (Vide Tab. *D. T.* 65); and the star is identified with 'Ninib, prince of the great gods' (*K.* 9490).

52. *Kakkab Su-pa*. | *Kakkab Na-am-ru*.

'The Asterism the *Lustrous*. | =The Asterism the *Lustrous*.'

Vide *sup.* p. 76.

53. *Enzu*. | *Bê-lat bí-ri*.

'The *Goat* (Ak. *Uz*). | *Lady of sight*.'

Apparently a mystical title of the *Goat*-star, *Capella*. Mistress of sight, vision; hence, of mental sight, knowledge, intelligence.

#### SUB-SECTION III.—THE EPILOGUE.

The First Part of this (Vide *sup.* p. 59) consists of six lines (54-59), the first three of which are as follows :—

54. *Arakh Kislimu arakh Dhabtu, arakh Sabâdhu. Qaran ili Sin sumêlu itsabbat, -va itti as-ri.*

'The-month Kislev, the-month Tebet, the-month Sebat. The horn of the Moon the-left-hand occupies, and with the-stations.'

55. *Nu-ukh-khû-tu u-di-e.*

'A-leading-back is-shown.'

The Euphratean North=our N.W., and the right hand being towards the East, the left would be towards the West, our S.W., Ak. *Mer-martu* ('the Point-of-the-road-of-sunset'), the S.W. and S.E. being the part of the heaven occupied by the Moon. 'Occupies.' Lit. 'seizes.' The same expression is applied to a planet when entering a zodiacal Sign. Such passages explain the meaning of the Hindu term for 'planet,' i.e., *Grâha* ('Seizer').

*Asri*, Ak. *ki*, 'place,' etc. This word gives the key to the meaning of the passage. The 'places' are obviously the moon-stations or lunar mansions previously enumerated. In *K.* 48 the star-god *Mulmo-sarra* (Vide *sup.* p. 85), the *Wain*, is called 'the Lord of the Stations' (*asri*), as a king of the nocturnal heaven, placed high above them. For the translation of *udie*, vide 30 *Stars*, p. 42.

56. *Sa salsu arkhi an-nû-ti yûmu 15 ilu itti ilu lâ innamar. Sû. Sa yûmu 30 lâ khalâbu.*

'For these three months on the 15th day god with god is not seen. Ditto. For the 30th day (god with god is) not clouded.'

'God with god.' In Ak. *An ki an*, i.e., the (sun-)god with the (moon-)god. The general sense of lines 54-6 is:—Observations made during three particular months. The moon completes its course 'there and back' through the various moon-stations.

On the 15th days of these months, sun and moon were not seen together; on the 30th days they were seen together.

These three lines are quoted in the great Bab. work on astronomy (Vide *W. A. I.* III. lxi. No. 2, l. 23-4); and therefore the Tablet of the Thirty Stars is older than the former compilation. The passage in the *Énu Bîli* immediately before the quotation is of great interest, and enables us to some extent to determine the age of the work. It reads:—

‘The Ummân-Manda comes and governs the land. The mercy-seats of the great gods are taken away. Bêl goes to Êlâm. It is prophesied that after 30 years the exiles shall be restored, (and that) the great gods shall return with them’ (Ap. Sayce).

The labours and discoveries of Prof. Sayce, Prof. Hommel and Mr. Pinches have at length enabled us to understand this passage. The Ummân-Manda (‘Tribal hordes.’ L. W. King.) dwelt in the land of Nod (*Gen.* iv. 16. *I.e.*, of the ‘Nomads’), and in the days of the early greatness of Nummaki (Êlâm) were amongst its vassals. They joined in the capture and plundering of Bâbilu by the Elamite king Kudur-nankhundi<sup>1</sup>; and their king Tudkhula, the Tid‘al, king of the Goyyîm (‘Barbarians’), of *Gen.* xiv., was an ally of the Elamite Kudar-Lagâmar (Chedorlâômer) in his western campaign against Sedôm (Sodom). The reign of Khammurabi, the Amrâphel of *Gen.* xiv.,<sup>2</sup> is placed by Bertin (*Bab. Chron. and Hist.*

<sup>1</sup> The goddess Nakhundi is mentioned in *K.* 11255.

<sup>2</sup> A reviewer of *Sem.*, and one who, to use an expression of Mr. Lang’s, is evidently a ‘camp-follower’ of the ‘Higher Criticism,’ is extremely angry because I notice (pp. 94-6) the doleful effect upon the general system of Wellhausen of the remarkable dis-

p. 39) from B.C. 2259 to 2214; but by Hommel (*Anct. Heb. Trad.* p. 125), with greater probability, B.C. 1947-1892. The terrible events connected with the capture of Bâbilu and the carrying off of the statue of the god Bêl by the Barbarians are evidently fresh in the mind of the writer of this portion of the *Énu Bili*. The god's statue is naturally taken by the Elamite conquerors to their own country; but the reverses inflicted on Bâbilu were subsequently fully avenged by Khammurabi, who overthrew Kudarlagâmar, and evidently recovered, amongst other things, certain statues of goddesses which had been carried off (Vide Hommel, *Anct. Heb. Trad.* pp. 178-9). Without entering here further into historical and other connected questions, it is plain from the foregoing instance, not to speak of the general

covery, from the cuneiform records, that *Gen. xiv.* is a strictly historical narrative. He remarks, rudely enough, that my observations are 'singularly silly,' a tone which shows the depth of his own annoyance. What is really 'singularly silly' is the standpoint of Wellhausen and his school in the matter. He himself still asserts that the incidents recorded in *Gen. xiv.* 'are sheer impossibilities' (Vide Hommel, *Anct. Heb. Trad.* p. 200), which, on the face of it, is an unprovable statement. Other critics of the school, unable to disprove the accuracy of such names as Kudur-Lagâmar, Eri-Aku (Ariôch), etc., have hastened arbitrarily to invent the ridiculous theory that some post-exilic Jew, who, for some unknown purpose, desired to write a historical romance, searched the Bab. archives, found the names in question, and then, 'for some reason,' says Meyer, 'which we are unable to fathom [They can't even suggest a reason to bolster up the preposterous notion.], mixes up Abraham with the history of Kudur-Lagâmar' (Vide *Ib.* p. 162). All this kind of nonsense is humbly reproduced *ad nauseam* in manuals and text-books by certain English devotees of the Wellhausen School, and is spoken of, as if, like the fall of the image of Artemis from heaven, it could not be doubted for an instant.



evidence, that the *Ēnu Bīli* is of very high antiquity ; and consequently that the Tablet of the Thirty Stars must belong at least to the third millennium B.C.

Speaking of lines 57-64 an eminent Assyriologist recently expressed the opinion to me that it would be long ere we could translate them. It is, however, desirable to make a beginning ; and I therefore append the following :—

57. *Kakkab a-na mes-khu izarr-ikh : na-mas (û) a-dam-ma-a kunnûnu. Duppu.*

‘The star (i.e., the Moon) for a measure rises : beast (and) man crouched-down. A tablet’ (i.e., a quotation).

*Nammassû*, ‘beast’ (King, *First Steps in As.* p. 369). Sometimes translated ‘reptile.’ The latter creatures are probably included.

*Adamâ*. The ‘Black’ race (Cf. the Aithiopians of Poseidôn-Êa), used in a general sense for mankind. Prof. Sayce, having observed that the ‘precise meaning’ of the expression ‘the black-headed race,’ ‘which is frequent in the hymns, is uncertain,’ adds :—

‘As M. Dieulafoy’s excavations on the site of Susa have brought to light enamelled bricks of the Elamite period on which a black race of mankind is portrayed, it may mean that the primitive Sumerian population of Chaldaea was really black-skinned’ (*Rel. Anct. Babs.* p. 99, n. 4).

Line 57 is probably some quotation from an archaic hymn which told, in simple language, how at night, during the sway of the moon, man and other animals are wont to rest. It rather reminds us of *K.* 2836, a ‘hymn composed by order of Assur-bani-pal on the occasion of an eclipse of the moon,’ in which ‘mankind are called “the people of the black heads, the

cattle of the god Ner, the reptiles (*nammassê*) [whom] thy [govenance] has overlooked''' (*Ib.* p. 198, n.).

58. *Ilu Balâdhu-bal-ti. Sû. Ilu Apin-barra. Ilu Ip.*

'The god *Life-of-fertility*. Ditto. The god *Foundation-divider*. The god the *Creator*.'

Apparently names of the Moon-god. Cf. 'the precious things put forth by the moon' (*Deu.* xxxiii. 14). As the god in his monthly progress marks out the lunar mansions, he divides the ring of the ecliptic. *Ip* has been previously mentioned (*Sup.* p. 86).

59. *Musar-û ana zîkar-u kipri simti balâdhi.*

'An-inscription for a memorial of-the-region of-the-foundation of-life.'

This region appears to be the ecliptic. We now reach the last portion of the *Tablet*, l. 60-4. A thicker line than ordinary divides lines 59 and 60, and this indicates the commencement of a new phase of the subject. It would perhaps be premature to attempt a detailed translation, as various ideographs may be read in several different ways. But the general sense is that the foregoing *Tablet*, which is said to be connected with the ecliptic ('yoke'), was also connected with, and was probably deposited in *E-zi-da ana ilu Nabû, rub nûri* ('the *Firmly-established-temple* for Nebô, lord of light'). Nabû, 'the creator of the written tablet,' 'the maker of writing,' patron-divinity of Barsipki (Borsippa), had there a famous temple called *Ezida* ('the *Eternal-house*.' Maspero, *Dawn of Civ.* p. 675); and he had also a 'chapel' of the same name in the great temple of Merôdakh at Bâbilu. Tablets were placed for safe keeping in 'the inner chamber of Ezida' (*Vide Sayce, Rel. Anct. Babs.* p. 520), the library being under the

particular protection of the god of learning. Both Ezidas were splendidly restored by Nabûkudurra-utsur III. But the Bab. 'temples were miniature reproductions of the arrangement of the universe. The "ziggurat" represented in its form the mountain of the world' (Maspero, *Dawn of Civ.* p. 674). The *ziggurrât* ('temple-tower') of Nabû at Barsipki was called 'the House of the Seven Bonds of heaven and earth,' and was in 7 stages, severally painted with the different planetary colours (Vide Sayce, *Rel. Anct. Babs.* p. 115). These 7 planetary bonds combine in forming the bond or yoke of the ecliptic; they make the zodiac, solar and lunar. And the true and original Ezida is the 'Eternal-house' where the bright lights of heaven fulfil their deathless destiny.

An As. Cylinder of great interest (Figured in Smith and Sayce, *Chal. Ac. Gen.* p. 112) exactly illustrates the circling lunar course. At each end, *i.e.*, in east and west, is a Palm-tree, representative of the Grove of the Under-world, eastern and western, and reduplicated in the Homeric ἄλσέα Περσεφονείης (*Od.* x. 509; vide R. B. Jr., *K.* pp. 106-7). Next to the eastern Palm-tree, on the back of a Leopard, which, as it could be trained to hunt, was a fit symbol for the Hunter-sun, stands the Sun-god Merôdakh, armed with bow and arrow and the *saparu* (sickle-shaped weapon, vide *sup.* p. 71), and lifting his right hand in solemn oath. Above his head is the solar star, which explains the symbolism. In front of him stands the unarmed Moon-god, also lifting his right hand in oath; for the two are making a solemn covenant to preserve kosmic order against the demons of darkness and storm. Behind the Moon-god, and standing on their hind legs, are two Unicorn-goats,

*counter-salient*, with their heads *regardant*; and, in the air, between them and the Moon-god, is the lunar crescent, the key to the symbolism, and divided into three parts, illustrative of the three parts of the month and the triple lunar aspect (Vide R. B. Jr., *U.*), by what seem to be handles. The Unicorn, or any animal represented with one horn only, is, as I have shown, a lunar symbol; and the remarkable position of the two Unicorn-goats—*counter-salient*, clearly indicates the monthly cycling progress of the moon ‘there and back.’ Such, then, is the general scope and import of the Tablet of the Thirty Stars.

## CHAPTER XII.

### Some Stellar Groups of Sevens.

#### SECTION I.—THE *TIKSI-TIKPI* STARS.

THE importance and sanctity so frequently attached by man to the number seven is a feeling reflected from the heavens themselves. There roll the Seven Wanderers, constant objects of curiosity, reverence and dread. There shine in sevens the stars of the two polar *Chariots*, of *Órion*, and of the *Pleiad*. But, distinct from these, the early inhabitants of the Euphratês Valley had grouped together certain other stars in sevens; and in Tab. *W. A. I.* III. lvii. No. 6, in addition to the seven Planets and the seven phases of *Mars*, we have the seven *Tiksi*, the seven *Lu-mâsi*, and the seven *Mâsi*.

The *Tiksi*-stars also occur in *W. A. I.* II. xlix. 10-13, where they are called *Tikpi*. *Tik-si* appears to me to be a Sum.-Ak. name meaning 'Those-lying-in-front' (*tik*). *Tikpi* is not, I think, a variant form; but a Sem. word suggested by the form of the Sum.-Ak. name, and meaning 'strong' (Cf. Heb. *Touqeph*, *Dan*. xi. 17). Prof. Hommel compares the 'syrisch *tekaph*, "stark, mächtig sein"' (*Astron. der alt. Chal.* iii. 12). Jensen (*Kosmol.* p. 57) abandons in despair all attempts to explain the name or to identify the *Tikpi*-stars. In a research so difficult we should not, to use an expression of Prof. Max Müller's, 'clamour for mathematical accuracy'; nor, on the other hand,

need we give up the investigation as hopeless. The names of the seven *Tiksi*-stars, several of which can be read in different ways, as the ideographs have various phonetic renderings, are as follows:—(1) *Gam*; (2) *Lugal*, Sem. *Sar*; (3) *Khu-sin*, otherwise *Khu-sibain*; (4) *Katsir-nindkê* or *Gumush-ni-nagi* (Hommel); (5) *Gis-li-e*, *gis* being here probably a determinative prefix, primarily meaning 'tree' or 'wood,' and hence denoting some wooden object or article; (6) *Tsir*; and (7) *Bildara* (Pinches), otherwise *Nidar* (Hommel) or *Issi* (Sayce). Prof. Hommel has endeavoured to identify these seven stars, and in two instances I have arrived at the same conclusions. We both regard the *King* (*Lugal*) as being *Regulus*, and the *Bird* (*Khu*) as *Corvus*. There is not the least reason to think that *Héraklès*, a constellation also called *Lugal* (Vide *sup.* p. 10) is intended; nor is there any other *Bird* except *Corvus* in this part of the heavens. These identifications determine, to a considerable extent, the celestial locality in question. We may expect to find the *Tiksi* star-group in the neighbourhood of *Leo*, near the centre of the ecliptic, and thus in the front of the heaven. The Ak. word *Sibain*, evidently meaning some sort of bird, is curiously like the Mongol *Schiabon*, *Schowoon*, Buriat *Subung*, which has the meaning of 'bird' generally.

The first of the seven *Tiksi*-stars, *Gam*, Prof. Hommel identifies with  $\beta$  and  $\zeta$  *Tauri* (Vide *sup.* p. 63). As we have seen, the *Gam* of the Tablet of the Thirty Stars cannot be any part of the *Bull*; and Prof. Hommel regards the two *Gams* ('Scimitars') as identical. This, however, I think, is clearly not the case. The *Gam* of the lunar Zodiac= $\alpha$ ,  $\beta$ ,  $\gamma$  *Arietis*

and a *Piscium*, stars which are out of the question here. *Gam* is the 'circular' 'weapon of Merôdakh' (Vide *sup.* p. 71), and the *Gam* of the *Tiksi*-stars will be identical with *Gisbar* (Vide *sup.* p. 79), 'which is before *Mulmosarra*,' = 'in the front' of the heavens, i.e.,  $\eta$ ,  $\gamma$ ,  $\zeta$ ,  $\mu$ ,  $\epsilon$  and  $\lambda$  *Leonis*, which, with *Regulus*, form 'the Sickles,' a stellar reduplication of the circular weapon of the Sun-god. Thus *Gam* and *Lugal* lie together.

The third *Tiksi*-star is *Corvus*, and the fourth, *Katsir-nindkê* ('The Mouth-of-the-Snake-drinks'), = *Caput Hydrae*, the allusion apparently being to the head of the *Water-snake* as near the 'canal' of the *Milky Way*. Prof. Hommel doubtfully identifies this star with *Spica*.

The fifth *Tiksi*-star is *Gis-Li-e*, which Prof. Hommel calls "Stern des *li*-Instrumentes," das ist wahrscheinlich des Joches (bzw. der Wage).' I do not, however, think that any stars in *Libra* are intended. The Ak. *li* = Sem. *lilis* (Sayce, *Syl.* No. 61), and the Rev. C. J. Ball (*A Bab. Ritual Text*, in the *Journal* of the Royal Asiatic Soc. 1892, p. 849) observes, 'The Accadian *liliz* appears in As. as *lilis*. The general sense of our text requires that it should mean some kind of vessel or receiver.' And, having instanced several cases in which *lis* 'seems to denote a vessel,' he adds that 'the Chinese *li* is "a tripod or incense caldron,"' concluding, 'Perhaps the *lilis* was a "brazen laver."' I therefore conclude, on the whole, that the *Li-e*-star = *Crater*.

The sixth *Tiksi*-star is *Tsir* ('the Serpent') which, according to Prof. Hommel, = a *Serpentis*. But it is quite needless to go so far afield when there is a suitable star comparatively close at hand,

i.e., *Alphard*, Ak. *Alla* (Vide Vol. I. 360; *sup.* p. 79).

The seventh *Tiksi*-star is *Bildara*, which Prof. Hommel supposes is  $\beta$  and  $\delta$  *Scorpionis*, because we read in *W. A. I.* III. liii. 28, *Ilu Iz-si*<sup>1</sup> (the same cuneiform combination as *Bildara*) *kakkab Gir-tab qa-bi*, 'The god the *Fiery-one*, the constellation of the *Scorpion* addresses.' The fact is that this same cuneiform combination is applied both to a planet and to a fixed star. In the former case I think with Prof. Sayce, that the name is to be read *Izsi*; in the latter case I would read *Bildara*, with Mr. Pinches. Thus, in *K.* 2894, Ob. l. 4 we read, *Kakkab Gir-tab ilu Iz-si yub-bu-ur*, 'The constellation of the *Scorpion* the god the *Fiery-one* crossed.' Here *Izsi* must be a planet, and we may have an instance of the close connexion between *Scorpio* and *Mars* (Vide Vol. I. 73). Line 5 states, *Ilu Iz-si yu-ta-ma-al*, 'The god the *Fiery-one* goes slowly.' Here, again, the observation refers to a planet, not to a fixed star; and in each of these three instances *Izsi* is called, not *kakkab*, but *ilu* ('the god'), which here implies a planet, as distinguished from fixed stars. But there are no planets amongst the *Tiksi*, *Lu-mâsi* and *Mâsi*. The *Tiksi*-star *Bildara* ('White-fire') is therefore a fixed star; and the remaining remarkable star near at hand is *Denebola*, which, as we have seen (*Sup.* p. 83) is called 'the Burning-of-fire,' and which, moreover, like *Polaris*, *Regulus* and *Fomalhaut*, is a 'white' star.

<sup>1</sup> As a god-name, this cuneiform combination, whatever may be its correct transliteration, is applied to Ninip, who is specially connected with the planet *Kronos-Saturn*; to Nabû, who is specially connected with *Mercury*; and to Sin (the Moon. Vide Brünnow, *Class. List*, p. 202).



Thus we locate the seven *Tiksi-Tikpi* stars under the *Bear*, in the front of the heaven and near each other; three in the *Lion*, and the other four in the *Water-snake* and its closely associated constellations the *Bowl* and the *Crow*.

## SECTION II.—THE *LU-MÂSI* STARS.

After the *Tiksi*-stars the Tab. *W. A. I.* III. lvii. No. 6 gives the seven *Lu-mâsi* stars. In Sum.-Ak. *lu*='sheep,' *mas*, Sem. *mâsu*,='hero'; and just as the planets were styled 'seven Old Sheep,' so seven particular fixed stars (I use the word 'star' in the usual wide general sense) were known as 'the Sheep of the Hero,' i.e., the Sun (Vide Sayce, *Rel. Anct. Babs.* p. 49). As Prof. Sayce observes, 'Jensen has shown that *mâsi* in this combination was further used in the sense of "twins," the stars composing the "*lu-mâsi*" being grouped as twins. It is an example of the obliteration of the original signification of an epithet by a secondary one. "The sheep of the hero," the Accadian *lu-mas*, became the Semitic *lu-mâsi*, "the twin oxen," *lu* being an Assyrian word for "ox" (Ib. n. 1). Thus, the stars are regarded as a flock of sheep, which the Sun drives before him; or, again, as oxen, some of which plough the ecliptic. So, similarly, would the western Aryan churl, looking up to the *Churl's* (=Charles') *Wain*, view its stars as the *Septem Triones* ('the Seven Draggers') or oxen. The names of the seven *Lu-mâsi*-stars are as follows:— (1) *Sugi* or *Shugi*; (2) *Udgudûa*, otherwise *Udkagaba*; (3) *Sibzianna*; (4) *Kaksidi*, otherwise *Kaksisa* or *Dusisa*; (5) *Entemasagar* or *Entemaslur*, other-

wise *In-tinnina-bar-shigga* (Hommel); (6) *Idkhu*, *Irû* or *Eri-gu*; and (7) *Papilsak* or *Pabilsag*. I will first notice the conclusion at which Jensen (*Kosmol.*) and Hommel (*Astron. der alt. Chal.*) have arrived at respecting the *Lu-mâsi*; and although here, as on some other occasions, I may have reason to differ from these illustrious scholars on various points, it must not be supposed that I do not entertain deep respect for their great achievements.

As regards *Sugi*, *Udgudûa*, *Entemasluv* and *Idkhu*, Jensen contents himself with observing that they are all 'in the neighbourhood of the ecliptic.' With respect to the first three I agree. We have seen (Vol. I. 78; *sup.* p. 5) that *Udgudûa*, in its broader signification, = *Sagittarius*; and when regarded with *Papilsak* as forming one of a pair of twins, probably =  $\epsilon$  and  $\sigma$  *Sag.*, whilst *Papilsak*, in this latter connexion, probably =  $\lambda$  and  $\mu$  *Sag.* (Vide *sup.* p. 25). Jensen suggests (P. 538) that *Papilsak* may be the *Archer*, and Hommel observes of the 'Pa-bil-sag-Stern,' 'etwa mit *Mira ceti* im Walfisch oder aber mit einem zwischen  $\theta$  *Ophiuchi* und  $\pi$  des Schützen zu suchenden Stern zu identifizieren ist' (*Astron.* iii. 12). As I place *Papilsak* between  $\theta$  *Ophiuchi* and  $\pi$  *Sagittarii*, there is a practical agreement respecting it. Why Hommel should suggest that *Papilsak* may possibly be  $\circ$  *Ceti*, called *Mira* ('the Wondrous') 'on account of its remarkable variation in brilliance,' I am not aware. As we have seen (*Sup.* p. 15) *Papilsak* was an ecliptic star of the 9th month. Hommel places '*Ud-ka-gaba*' (= *Udgudûa*), which he renders 'Throat-opening-beast,' either in the region of *Lepus*, or in the comparatively starless space occupied by the

modern constellation the *Unicorn*, between the two *Dogs*. Here, again, the question is decided by Tab. Sm. 162 (*Sup.* p. 5), so that nothing more need be added.

*Entemasluv*, in full *Entenamasluv*, Hommel arbitrarily splits in two. When it is spoken of as an ecliptic star he regards it as *Denebola* (*Vide sup.* p. 87); at other times he supposes it to be *Deneb* (i.e., *Zanab*, 'the Tail,' a *Cygni*). In the abstract there may be two stars of this name, just as there are many other celestial duplicates. But such a fact is not to be assumed; a priori the probability is against it (As to this 'star,' *vide sup.* p. 86). *Idkhu*, as we have seen (Vol. I. 45; *Sup.* p. 18) is *Aquila* with its Eagle-star *Altair*. To this Hommel agrees, but, as noticed, Jensen places *Idkhu* 'in der Nähe der Ekliptik.' His reason for this view is probably based upon such passages as the following (*W. A. I.* III. lii. No. 2):—

14. *Kakkab Id-khu ana kakkab Lu-bat dikhu:*

'The constellation the *Eagle* to the planet *Jupiter* (is) opposite':

17. *Kakkab Id-khu ina libbi Sini nazuz:*

'The constellation the *Eagle* over the place of the Moon is fixed.

18. The constellation the *Eagle* over the right horn (*ina qarni imni*) of the Moon is fixed.

19. The constellation the *Eagle* over the left horn (*ina qarni sumeli*) of the Moon is fixed.'

The preposition *ina* has the meanings 'in,' 'upon,' 'near,' etc. (*Vide* Muss-Arnolt, *As. Dict.* p. 66); and, in the above passage is obviously to be rendered 'over,' inasmuch as no bright star is ever seen actually impaled, so to speak, *upon* a horn of the moon (*Vide*

R. B. Jr., *E. S. R.* Part i. 17). I have often noticed *Luna* and *Altair* in the exact combination referred to in l. 18. The Ak. *lib*, Sem. *libbu*, means 'within,' 'the middle,' and 'the heart,' as that which is in 'the midst' of the body. But the phrase *ina libbi* has one or more special astronomical meanings. Thus, a star is said to be *ina lib-su* (Tab. K. 2310, Rev. l. 14), 'in its (own) place,' i.e., its proper place in the heavenly array, in accordance with kosmic harmony and order. Again, in *W. A. I.* III. liii. No. 1, l. 18, we read *Guttav ina libbi izzaz* ('Jupiter in the midst is fixed'); and elsewhere (Vide Vol. I. 269) it is stated 'the star *Tiranna* ('Judge-of-heaven,' = *Polaris*) over-against (i.e., opposite to, *itti*) the midst is bound.' Here, the Pole-star,—whatever star may then have been *Polaris*,—is represented as being fixed immovably, opposite to 'the midst' of the heavens. It is possible that (Ak.) *ki* here = *ina*, and that the Pole-star may be regarded as also a heaven-centre; but from such passages it is sufficiently clear that, as a rule, 'the midst' = the ecliptic; and this interpretation, which is in itself sufficiently obvious, is confirmed when we turn to Arâtos, who, speaking of the *Ram*, says:—

'In midst of the vast heaven he moves, just where  
The *Claw-tips* and *Orion's* head revolve' (*H. D.* 231-2).

'Just where' means in the same division of the heaven, i.e., the ecliptic; and the Bab. *ina libbi* = the Gk. *μεσσόθι*. But, further, 'the midst' may also mean, not the ecliptic generally, but some particular portion of it, the special subject of observation at the time. Thus in K. 2310, Rev. l. 3, where *Sagittarius* is under observation, we read *Lu-bat an-a libbi dikhu* ('The planet [*Jupiter*] to the midst is opposite.' This

does not mean that *Jupiter*, like *Polaris*, is 'over-against' the midst; but that he was opposite to that part of the ecliptic which being then under special consideration, was, for the time, 'the midst' *par excellence*.

According to Hommel, *Shugi*=*Órion*. He states that the Sum. *Shugi*=Sem. *Shību*, 'Shaykh' (lit. 'Elder'), that it reappears in the Eg. *Sech*<sup>1</sup> (= *Órion*), and that the word *Shību*, meaning *Órion*, occurs in *W. A. I.* III. liii. No. 1, l. 71. In *W. A. I.* II. xxxii. 62 we find *Sugi* explained as (amongst other things) *Sébu* (Vide Brünnow, *Class. List*, p. 300). He draws a further argument from a Tablet 'aus dem Jahr 138 v. Chr.,' which speaks of the stars 'Shugi und Kakban' (*Sirius*); and, from a consideration of their risings and settings, concludes that the former must be *Órion*. The statements of the Tablet do not appear to me to be conclusive on this point (Vide quotations from other Tablets respecting *Sugi inf.*); but we will first examine the passage in *W. A. I.* III. liii. No. 1, which is of great interest and importance. The translation here given is based on that by Prof. Sayce (*Trans. S. B. A.* iii. 191); and, as I understand it, the Tablet reads as follows:—

71. *Kakkab* *Erítu*

'The constellation the *Pregnant-woman* (is that)  
*sa ina birit kakkab Si-bi ú*  
 which in conjunction-with the-star *Double-eye* and  
*kakkab A-nim izu-zu.*  
 the-constellation of-Anu is-fixed.'

Then follows the important gloss, already quoted (Vol. I. 54), 'the constellation of Anu=the *Ram*.' In commenting on the astronomical Tablets we must always remember that most of them are still unknown

<sup>1</sup> *Sahu* is the ordinary Eg. name for the constellation *Órion*.

to us; and therefore on many points we have to speak subject to correction. The present passage supplies an apt illustration of this fact. For some reason unknown to me Prof. Hommel identifies *Erîtu* (probably *Ama* in Ak., vide *sup.* p. 23), a name of Istar, with the Pleiad. To this I do not agree, because (1) I know of no evidence in support of the theory; and (2) there is nothing to show that *Erîtu* was in the ecliptic, whilst (3) we already know several (other) names for the Pleiad. Again, *Sîbi* is not a Sem. word *Sébu*, meaning 'Shaykh,' but a Sum. word meaning, as the ideographs show, 'Eye + two' = 'Double-eye,' a curious appellation which receives an exact explanation from the characteristics of the singular and neighbouring star *Algol* (Vide *sup.* p. 22). The name *Sîbi* is not contained in a gloss, and when the tablet-writer has occasion to refer to *Sugi*, as in l. 74, he calls it *Sugi*, not *Sîbi* or *Sébu*. That *Sîbi*=*Algol* is not capable of anything like mathematical demonstration; here, as everywhere, probability is the guide of life. It will be instructive to continue the translation of the Tablet:—

72. *Kakkab*            *Ma-a-su*                            *sa ina-pân*

'The constellation the *Twins* (is that) which before  
*D.P.*<sup>1</sup> *A-nim izu-zu*.

Anu is-fixed.'

Gloss:—*Anuv kakkab Al-lul*, 'Anu (extends to) the constellation the *Hero*,=the *Crab* (Vide *sup.* p. 16).

First let us see how Prof. Hommel explains this line. According to him Anu=the North Pole ('Nordpol'), so that the *Twins* 'before Anu' are probably 'die beiden helleren Sterne des Kleinen

<sup>1</sup> I.e., Determinative Prefix, viz. *ilu* ('god').

Bären (die "zwei Kälbchen" der Araber), that is  $\beta$  and  $\gamma$  *Ursae Min.*, Ar. *El-fer-kadain* ('the Two Calves.' Vide *inf.* p. 188). Lastly, 'hier ist Anu der Stern Allul (sonst Delphin).' This last remark of the 'Glossator' anent Anu and *Allul*, Hommel observes we are not now able to understand. Most true. On these lines the changes and transformations of Anu are indeed incomprehensible. One moment he is the North Pole, the next he is the *Dolphin*, and what next he may be it is impossible even to conjecture. Vainly also may it be asked, If Anu be the North Pole, why is the *Ram* his special constellation? Why the *Dolphin* is introduced I cannot imagine; but his appearance is useful, as it enables us to disprove Hommel's theory, for, as we have seen (*Sup.* p. 16), *Allul*, otherwise *Allab*, is not the *Dolphin*, but is an ecliptic constellation of the fourth month, = *Cancer*. There is no real difficulty in the passage, and Prof. Hommel has himself helped us to understand it. Prof. Sayce remarks, 'Prof. Hommel has lately shown (*Ausland*, Nos. 4-7, 1892) that the spheres of the three "great gods," Anu, Bel and Ea, into which the Chaldaeans divided the sky, corresponded to thirds of the Ecliptic, the sphere of Anu extending to the *Crab*. . . . The Twin-stars were "the Great Twins," Castor and Pollux in Gemini' (*The Higher Crit. and the Mons.* n. pp. 69-70). Thus we see that Anu = the sphere or special region of Anu, = a region from the *Ram* to the *Crab*, both inclusive, having the ecliptic as its centre. Hence the *Ram*, at the beginning of this region, is the special constellation of Anu; and hence the note of the glossator respecting Anu and *Allul*. 'The Twins before Anu' = *Castor* and *Pollux* ( $\alpha$  and  $\beta$  *Gem.*);

and we can leave the North Pole, the *Two Calves* and the *Dolphin* in peace.

73. *Kakkab*

*Ertu*

*sa*

'The constellation the *Pregnant-woman* which  
*ina-pân Bêl si-id rukh sadi si-kid, a-na*  
 before Bêl on the east side declines, to  
*kakkab Su-gi i-qab-bi.*

the constellation the *Chariot-yoke* speaks.'

*Myliatta* (=the constellation *Adâmâth-Andromeda*), which fronts *Ursa Maj.*, which latter is above the Bêl-sphere of the ecliptic, is opposite (= 'speaks') to *Sugi*. The Ak. (*Gis*) *Gar-su-gi* 'is translated "the front part of a chariot"' (Sayce, in *Trans. S. B. A.* iii. 173, n. 2), and Mr. Pinches renders *Sugi* by 'Chariot-yoke,' a meaning which, for several reasons, I follow. Now in *K.* 2894 Ob. l. 15 we read:—*Kakkab Su-gi tarbatsa. . . . Sin ina libbi kakkabi Su-gi tarbatsa ipakhhir.* 'The constellation the *Chariot-yoke* sets. The Moon in the place of the constellation of the *Chariot-yoke* sets' (lit. 'disappearance makes'). Again, in *W. A. I.* III. lvii. No. 4, l. 11, we read:—*Dil-bat ina-pân ilu Su-gi izzaz.* 'Venus before the god the *Chariot-yoke* is fixed.' Again, in *Ib.* III. lix. No. 10, l. 1-2, we read:—*Kakkab Su-gi ana subti Sini . . . -va illak ana libbi. Sin erib.* 'The constellation the *Chariot-yoke* to the seat of the Moon . . . and goes to the midst. The Moon sets.' In the face of such statements as these how can *Sugi*=*Óríôn*? The Moon could not set in *Óríôn*. It is true that *Óríôn* adjoins the ecliptic, and, according to the boundaries of constellations in our modern star maps, a small fraction of the constellation is actually within the ecliptic, but none of its bright stars are so situate. Taking the evidence as a whole, it seems



impossible that *Sugi* can=*Orion*, at all events in early times; for, we must remember, that, in the course of ages, the same names were applied in more than one instance to different planets, and the same incident may also have taken place in the case of some of the fixed stars. But further: we have not to go far afield to find suitable stars for *Sugi*, an ecliptic constellation, as Jensen notes (*Sup.* p. 111). It is very probable that the original *Taurus* consisted of the Hyads only (Vide Houghton, in *Trans.* S. B. A. vi. 469); and even in Ptolemy's List the star  $\beta$  *Tauri*, called *Nath* (=Ar. *Al-nâtih*, 'the Butting'), is said to be 'in the right foot of the Charioteer' (Vol. I. 55). Hence it is named (Ar.) *Kabdhi-l-'inân* ('The Heel-of-the-Rein-holder'). *Sugi*, the 'Chariot-yoke' or 'Front-part-of-a-chariot,' will thus probably = the southern stars of *Auriga*, which extend into the ecliptic; and the somewhat singular expression *ilu Sugi* (*Sup.* p. 117), 'the god' (not *kakkab*) *Sugi*, or 'the god of the Chariot-yoke,' will refer to the divinity originally represented by *Auriga* (As to the ecliptic *Chariot*, vide Vol. I. 338). This view also explains the remarkable connexion between *Sugi* and the Moon above noticed; not merely because the Moon could be in *Sugi* as an ecliptic constellation, but also because of the connexion between the Moon, the New Year and *Capella*, the principal star of *Auriga* (Vide Map, Vol. I. 119). In considering l. 73-4 Hommel is compelled to assume that there is a second constellation called the *Pregnant-woman*, a circumstance in the abstract very improbable. He also holds *Entenamasluw* to be *Deneb* (a *Cygni*. Vide *sup.* p. 112); and, as in l. 74 we read: *Kakkab Entenamasluw kakkab Allab*, a gloss which, on his

principles (Vide *sup.* p. 115), he is compelled to interpret, '*Entenamashuv*—*Allab*' (= *Allul*), we are landed in the dilemma *Deneb*—the *Dolphin* (Vide *sup.* p. 116), which is absurd. I interpret this useful gloss as I did the former one (l. 72);—'*Entenamashuv* (= *Hydra*) extends to *Allab*' (= *Cancer*). In the passage *W. A. I.* III. liii. No. 1, l. 71-4, therefore, the scribe appears to be considering the Anu-portion of the heavens, and to refer to *Andromeda* (*Ertu*), *Algol* (*Sibi*), *Aries* (*Lulim*), *Cancer* (*Allul*, otherwise *Allab*), *Auriga* south (*Sugi*), *Castor* and *Pollux* (*Mâsu*), and *Hydra* (*Entenamashuv*).

The two remaining Lu-mâsi stars are *Kaksidi* and *Sibzianna*. Both are protagonists of the heavenly host, and both have already occasioned a great amount of controversy. Jensen holds that *Kaksidi*—*Antares*, and that *Sibzianna*—*Regulus*. The positive evidence in favour of this theory is *nil*, the negative overwhelming. Thus, although the references to *Kaksidi* are very numerous, not one of them speaks of it as an ecliptic star; and, as we have seen (*Sup.* p. 98), it does not appear in the list of lunar Mansions, but, on the contrary, is mentioned in the second part of the Tablet of the Thirty Stars. This circumstance, however, is not absolutely conclusive that *Kaksidi* is not another name for *Palura* (= *Procyon*), but even *Procyon* is not really within the ecliptic, although a loose and ill-defined ecliptic included it. *Regulus*, again, is not called *Sibzianna*, but, as we know positively from Classical sources (Vide Vol. I. 62) was named *Lu-gal* (Sem.) *Sarru*, 'the King.' Nor, again, was *Sibzianna* merely a single star (Vide Vol. I. 288). I will now proceed to consider *Kaksidi*,

which, as observed (*Sup.* p. 98), is either *Sirius* or *Procyon*.

First, as to the names *Kak-sidi* and *Kak-ban*. In certain Gk.-Bab. tablets mention is made of a star which Epping and Strassmaier call *Kak-ban*, and which, by astronomical calculation, they identify with *Sirius*. Jensen and Hommel agree, and let it be admitted. I would, however, observe that *kak* being the construct state of the Sem. *kakku* ('weapon'), we ought to read the second syllable not (Ak.) *ban* ('bow'), but (Sem.) *qasti* ('of-the-bow'). Thus the *Kakkab Kak-qasti* is 'the star *Weapon-of-the-bow*,' the 'Bogenstern.' Further, I am not aware that this name occurs in any early tablet; it seems to be a late and purely Sem. title of *Sirius*. Here, of course, I speak subject to correction. In *Z.* (p. 26) I made a suggestion respecting the name *Kak-ban* which I think worthy of mention here. I pointed out that the ideograph for *kak* is at times rendered in As. by *kal* (Vide Sayce, *Syl.* No. 138), and that *ban* also appears as *bam*, that in Bab.-As. *m* and *v* are interchangeable, as frequently are *u* and *v* (Vide Sayce, *As. Gram.* pp. 46-7). The result of this is that instead of *kak-ban* it is possible that we ought to read *kal-bav*, *kal-bau*, *kal-bu*, 'dog,' i.e., *Sirius*. However, be this as it may, let us assume so far that *Bow-star* was a late Bab. name for *Sirius*. We now turn to the name *Kak-sidi*. In Sum.-Ak. the North (=our N.W.), the point of the compass specially connected with Akkad (Vide *K.* 8484), was called *Mer-sidi* ('the Directing-point'), just as the *Bull*, once leader of the Signs, was called *Gut-sidi* ('the Directing-bull'). As *Sirius* is south of *Procyon*, and as the latter has been styled 'the Northern

*Sirius*, and as *kak* in *Kak-qasti* means 'weapon,' it has been assumed that in *Kak-sidi* we have 'Weapon-northern,' 'Waffe des Nordens,' as Hommel styles *Procyon*. On this view *Sirius* and *Procyon* were two Weapon-stars, *Sirius* the Bow, *Procyon* some unnamed weapon, a rather singular circumstance.

There are, however, certain rather grave difficulties in the way of this view of the meaning of the name *Kaksidi*. First, *Kaksidi* is a very ancient Sum.-Ak. name. Hence, *kak*, which can also be read *rû* and *dû*, has here nothing to do with the Sem. *kakku* ('weapon'), but is an Ak. word meaning 'to make' etc. The Ak. for weapon is *gudhu*. Next, *sidi* does not mean 'north,' but 'directing'; and hence Mr. Pinches wrote to me upon this star-name as follows:— '*Du-sisa* is rendered in As. as *kakkab mēsre*, but what this means is difficult to say. *Mēsritu* (plu.) means "limbs," understood as "leaders" or "directors" (*ēsēru*, "to direct"). The Ak. *du-sisa* [otherwise *Kak-sidi*] means "(the star) which makes directing." Hence, this star-name, whether read one way or the other, means, not the *Northern-weapon*, but the *Leader* (Vide *sup.* p. 98). Of course such a title as the *Leader* naturally reminds us of *Sirius*, brightest and chief of the fixed stars, and who, in the Persian scheme, so closely connected with the Babylonian, occupied this position. Thus Plutarch: 'Ὠρομάζης . . . οὐρανὸν ἀστροῖς ἐκόσμησεν, ἓνα δ' ἀστέρα πρὸ πάντων οἶον φύλακα καὶ προόπτην ἐγκατέστησε, τὸν Σείριον (*Peri Is.* xlvii.). Next, so far as I am aware, it is to be observed that just as the name *Kak-qasti* only occurs in late documents, so the name *Kaksidi* only occurs in ancient documents; *K.* 260,<sup>1</sup> as quoted

<sup>1</sup> Only a portion of *K.* 260 is given in *W. A. I.* II. xlix. No. 3,

by Jensen (*Kosmol.* pp. 49, 52) may be a possible exception to this, and there, although Jensen strongly denies it, the two stars appear to be identified.

*Kaksisa* (the form of the name which I prefer) was one of 'the twelve stars of the West' (*W. A. I.* II. xlix. 4), amongst which were *Dilgan* (*Capella*), *Bartabba-galgal* (*Castor* and *Pollux*), *Sugi*, *Lugal* (*Regulus*) and *Allul* (*Cancer*). *Kaksisa* rose 'in the days of variable storms (and) heat,' and was 'like bronze' (*Ib.* I. xxviii. 14). In *W. A. I.* II. xlix. 15 we read :—

<i>Kakkab</i>	<i>Kak-si-sa.</i>		<i>Asar rab sami :</i>
'The star the	<i>Leader.</i>		Station great of-the-heaven :
<i>damaku.</i>			

prosperous.'

*Asru*, as noticed (*Sup.* p. 99), is a technical term applied to special and important celestial localities, e.g., to the lunar Mansions. In the *Proc. S. B. A.* March 1888, Dr. Bezold published what he called 'A New Text concerning the Star *Kak-si-di*.' This Tablet, K. 2894, Ob., a translation of which I gave in the *Proc. S. B. A.* May, 1893, was not specially about *Kaksisa*, which is not mentioned until l. 18. We read :—

18.	<i>Kakkab</i>	<i>Kak-si-sa</i>	<i>ana</i>	<i>rukhi</i>	<i>iltâni</i>
	'The star	the <i>Leader</i>	for	a	north wind
	<i>innamiru-su sak-nu :</i>				

its-appearance makes :

where *Kaksidi* (l. 47) is explained, if the reading be correct, as (Sem.) *Sukûnu*, which I would compare with the Heb. *Shekhîn*, an 'inflamed ulcer or boil,' a simile which might be applied to a brightly blazing star. But another reading is *Sukudu*, 'the Restless,' i.e., eager, impetuous blazing.

19. *Ina yû-mi innamar; rukh iltânu illak.*

At daybreak it-is-seen; a north wind blows.

20. *Kakkab Kak-si-sa khalâbu: mâta*

The star the *Leader* (is) misty: the land  
*kha-ru-bi-e ikkalu.*

locusts devour.

21. *Ina arkhi Dûzu kakkab Kak-si-sa*

In the month Tammuz the star the *Leader*

(*û*) *kakkab Id-khu ikassidu:*

and the star the *Eagle* are-in-the-ascendant:

*samassammu*

*esiri*

the sesame (Gk. *σέσαμον*) (is) flourishing.

22. *Kakkab] Kak-si-sa û kakkab Id-khu*

The star] the *Leader* and the star the *Eagle*  
*a-kha-mis innamaru,*

together are-seen.

Tab. K. 2310, Ob. contains some similar lines. *Akhamis* (lit. 'Like-brothers') is here used of time, not of space. The Sesame, associated in legend with Schamir, Sassafras (=Saxifrage), etc. is a plant which plays a prominent part in mythic tales, and in original idea is connected with the lightning (Vide Sir G. W. Cox, *Mythol. of the Aryan Nations*, 2nd edit. pp. 95, 440 *et seq.*). When we analyse the evidence contained in the foregoing quotations, we shall find that it seems, on the whole, to point strongly towards *Sirius*. But not with absolute conclusiveness. Thus *Kaksisa* is 'like bronze' (*êrû*), and, agreeably with this, Ptolemy styles *Sirius* *ὑπόκιρρος* (Vide Vol. I. 98). But at present *Sirius*, as Mr. H. Sadler observes, is 'one of the whitest stars in the heavens'; and Prof. Schjellerup has suggested that 'the attribution of the colour in question to *Sirius* arises from the error of a copyist.' This, again, is easy to suggest, but by no

means very probable. Why should a copyist *insert* ὑπόκιρρος here apropos of nothing? Sir Norman Lockyer (*Element. Les. in Astron.* p. 23) gives the colours of certain large stars, 'founded on Mr. Ennis's observations.' The 'red stars' are *Aldebaran*, *Antares* and *Betelgeuse*; and each of these are (rightly) marked ὑπόκιρρος ('reddish-yellow') in Ptolemy's List. *Sirius*, *Vega*, *Atair* ('the *Eagle*'), and *Deneb* are said to be 'green stars'; but this is doubtless the result of careful astronomical observation. They do not appear 'green' to the naked eye. Thus, I have no hesitation in calling *Vega*, as we see it, steel-blue (Vide Vol. I. 35). *Procyon*, *Capella*, *Rigel*, *Bellatrix* and *Spica* are said to be 'blue stars'; and *Regulus*, *Denebola*, *Fomalhaut* and *Polaris*, 'white stars.' *Arcturus*, as anyone may see, is, *par excellence*, the 'yellow' star. Smyth states, 'Mr. Barker, in the fifty-first volume of the *Philosophical Transactions*, considered that *Sirius* has changed colour, from red to white, in the lapse of ages; and quotes Aratus, Cicero, Virgil, Ovid, Seneca, Horace, and Ptolemy, in proof. The ancients, however, used the names of colours with the utmost latitude.' As a rule, this last remark is very just. 'Mr. Barker's evidence for the mutation has more learning than point; but Seneca has an admission that the redness of *Sirius* was so strong as to exceed that of *Mars*; and Ptolemy says it was the same colour as *Cor Scorpii*. These witnesses [are] both men of character and trust' (*Cycle of Celest. Objects*, ii. 160). Smyth also correctly adds that Ptolemy styles *Arcturus* and *Pollux* ὑπόκιρρος, 'as they now actually are.' These stars are, on the whole, of the same colour as *Chalkiopê* ('the Bronze-faced' Moon) who, in Gk. myth-

ology, is the spouse of Phrixos (the Unsunlit-air). Thus, we are unable to arrive at certitude by means of colour-description; and perhaps the expression 'like bronze' is merely used in a general way of a star glittering and shining as if burnished.

But *Kaksisa* is also specially connected with the West, the North Wind, the month Tammuz (June-July) and the star the *Eagle* (= *Altair*, a *Aquilae*. Vide Vol. I. 45). *Kaksisa*, then, is a star of the west (*Sup.* p. 122), and, remembering that the Euphratean W. is the S.W., this is perfectly true of *Sirius*, which with us is a S.E. (=Euph. S.) star in January, a S. (=Euph. S.W.) star in February and March, and a S.W. star in April. The Tablet referred to broadly divides 24 stars into 'Stars of Akkad' (=E. and N.), and 'Stars of the West' (=W. and S.). But these positions practically apply equally well to *Procyon*.

*Kaksisa* is further specially connected with June and July, and is said to rise 'in the days of storms (and) heat.' Its rising at daybreak (*i.e.*, its heliacal rising) is connected with the commencement of a north wind; and the heliacal rising of *Sirius* in connexion with various ancient religious observances is familiar. The final formal Euphratean scheme or chart of the heavens had been compiled prior to B.C. 2000; and, to take a particular date, on July 10, B.C. 2000, *Sirius*, as seen from Babylôn, rose heliacally and was only visible shortly before sunrise. It is a commonplace in the Classics that the *βορραὶ ἐτησῖαι*, the *aquilones etesiae*, the 'periodical' N.W. (=Euphratean N.) winds blow for so many days from the rising of *Sirius*. Arâtos, speaking



of the days of the *Lion*, the sign of the month *Dâzu*, says :—

‘ These are the hottest pathways of the sun ’ ;  
the ‘ days of heat ’ of the Tablet,

‘ On the wide sea then fall with sudden force  
Whistling Etesian blasts.  
Then do broad ships best suit the deep, and then  
May helmsmen keep the rudder to the wind.’

(*H. D.* 149, 152-5.)

These are the ‘ days of storms ’ of the Tablet, and *Kaksisa*, the Star of July, reminds us of the Homeric ‘ Star of Summer that above all others glitters bright [*Sirius* is far brighter than *Canopus*, the second in splendour of the starry host], when he hath bathed in the Ocean-stream.’ So *Arâtos* says of *Canis Major* :—

‘ His portentous jaw  
Bears at the end a star which scorches most,  
Resplendent ; so men it the *Scorcher* call.  
When he, growth-checking, rises with the sun,  
No more do vineyards cheat with leaves alone ;  
In his swift course throughout the rows he sifts  
With ease ; some strengthens, others quite destroys.’

(*H. D.* 582-5.)

And *Hêsiôd* speaks of ‘ the season of toilsome summer ’ when ‘ goats are fattest, wine is best, and men weakest, since *Seirios* parches head and knees ’ (*Vide* Vol. I. 144). The north-west wind, though accounted stormy and dangerous in Hellenic, is, in many respects, favourable and refreshing in Euphratean regions (*Cf. Cant.* iv. 16), and comes from the Euphratean north. ‘ The greater part of the Antients,’ observes *Sherburne*, ‘ assign the Dog-Stars rising to the time of the Sun’s first entering into *Leo*, or as *Pliny* writes, 23 days

after the Summer Solstice, as *Vurro* 29, as *Columella* 30. . . . At this day with us, according to Vulgar computation, the rising and setting of the said Star is in a manner coincident with the Feasts of St. *Margaret* (which is about the 13th of our *July*) and St. *Laurence* (which falls upon the 10th of *August*), as this common verse expresses it,

*Margaris Os Canis est, Caudam Laurentius affert.*<sup>1</sup>

In the *Eisagôgê eis ta Phainomena* of Gemînos the Rhodian, cir. B.C. 77, occur the following memoranda under the heading *Χρόνοι τῶν ζωδίων* (cap. xvi.) :—

‘The Sun passes through the *Crab* in 31 days.

On the 11th, according to Eudoxos, *Óríôn* rises at daybreak (*εῡρος*).

On the 23rd, according to Dositheos [who made some stellar observations B.C. 200], in Egypt the *Dog* appears.

On the 25th, according to Metôn [cir. B.C. 430], the *Dog* rises at daybreak.

On the 27th, according to Euktêmôn (Vide Vol. I. 125), the *Dog* rises. According to Eudoxos, the *Dog* rises at daybreak, and during the 5 following days the Etesian Winds blow.

On the 28th, according to Euktêmôn, the *Eagle* rises at daybreak ; stormy weather at sea begins.

The Sun passes through the *Lion* in 31 days.

On the 1st day, according to Euktêmôn, the *Dog* is conspicuous.

On the 5th day, according to Eudoxos, the *Eagle* sets at daybreak.’

Other Classical Calendars have similar entries. So, in a Latin translation from Ptolemy, giving the *Iner-*

<sup>1</sup> *The Sphere of Marcus Manilius*, 1675, p. 32.

*rantium Stellarum Significationes*, we find (Ap. Petavius, *Uranologion*, p. 98) :—

‘Julius. Id. *Canicula* exoritur. *Etesiae* inualescunt.

XVII. *Orion* exoritur, et violentus flat *Aquilo*.

XIII. *Sol* in *Leone*. *Canis* exoritur.

XII. *Etesiae* cum aliis ventis per unum et viginti flant dies.

X. *Aquila* occidit.

IX. *Leo* cum *Sole* exoritur et *Cane*.

VIII. *Canis* emergit.

VII. *Aquila* occidit.

VI. *Canicularis* æstus.

V. Vehementer calores. *Etesiae* valenter spirant.

III. *Aquila* occidit matutino, aërq̃ue turbidus fit.’

The other remarkable constellation at this season, it will be observed, is the *Eagle*, which was connected with stormy weather. Thus Arâtos :—

‘And nigh [the *Bird*] a second sails

Lesser in size, but dangerous to come

From ocean when night flies; the *Eagle* named

(*H. D.* 313-15).

The *Lion* comes; those [constellations] setting with the *Crab* Pass wholly, and the *Eagle*’ (*Ibid.* 590-1).

‘Egyptiorum annum magnum,’ says Censorinus, ‘quem Graece *κυκλόν*, Latine canicularem vocamus, propterea quod initium illius sumitur, cum primo die eius mensis, quem vocant Aegyptii *Θωθοί*, caniculae sidus exoritur’ (*De Die Natali*, xviii.). B.C. 45 the 1st Thoth=27th August, B.C. 1422 it=20th July (Vide Wilkinson, *Ancient Egyptians*, iii. 103), therefore B.C. 2000 it=30th June. Classical authors also, therefore, point strongly towards the identification of *Idkhu* with *Aquila*, or rather with *Altair*. The

astronomical point of view confirms this conclusion, for, at the date and latitude in question, *i.e.*, July 10, B.C. 2000 at Babylôn, *Altair* occupied a position low down in the N.W. horizon, exactly opposite to *Sirius*, and they would be visible together for a short period. Hence we see the force of line 22 of the Tablet. These two stars are never visible together in England.<sup>1</sup> But *Procyon* and a portion of *Aquila* are seen together here in April and May.

All these considerations, however, whilst pointing strongly to the identification of *Kaksisa* with *Sirius* are nevertheless not absolutely conclusive. They do not necessarily exclude *Procyon*, although the circumstances generally by no means fit so well with the latter star. But, next, a fresh difficulty arises with respect to the *Bow*-star; for, although, as noticed, *Kak-ban* (= *Kak-qasti*) is a late name, yet *Ban* (simply) is not. Thus, in *K.* 2253 (the text of which unfortunately is not before me) we have 'forecasts taken from observations of the stars' *Kaksisa*, *Gil* (=Sem. *Agû*, 'the Crown,' possibly the *Crown* of Istar-Ariadnê, vide Vol. I. 33), and *Ban* (=Sem. *Qastu*, 'the Bow'). This, at first sight, seems to clear up matters; it may perhaps be at once suggested that *Kaksisa*=*Procyon*, and *Ban*=*Sirius*. But, unfortunately for this solution, we learn in *W. A. I.* II. xxxix. No. 5, l. 58 that *Kakkab Ban (Qastu)*=*Ilu Lubat*, *i.e.*, the *Bow*-star=*Jupiter*. Suppose, however, we hold that *Jupiter*, chief of planets, is the *Bow*-planet, just as *Sirius*, chief of fixed stars, is

<sup>1</sup> Mr. E. B. Knobel has supplied me with the following figures relative to stellar position:—B.C. 2000. *Sirius*; Right Ascension 57° 25' 52", Declination - 19° 31' 1". *Altair*; Right Ascension 248° 54' 37", Declination + 7° 28' 31".

the *Bow*-star. Even then our difficulties are not over. Thus, in *K.* 2310, l. 1-2, which are unfortunately much mutilated, we read:—*Kakkab Qastu . . . ris ili innamar-va ina libbi . . .* ‘The-constellation the *Bow* . . . the-head of-the-god is-seen, and in the-midst . . .’ Now it would seem that the constellation in question is *Sagittarius*, which, similarly, Arâtos (*Phainom.* 623, 664-5) calls simply the *Bow* (Τόξον); or, if not the whole of *Sagittarius*, then the *Bow*-stars. For, it will be observed that ‘the head of the god,’ a reference apparently to the human-headed figure of the *Archer*, primarily the god Nergal, is spoken of, and that in connexion with the ecliptic, in which it actually lies. If the *Bow* here were a single star, how could the expression ‘head of the god’ apply to it?<sup>1</sup> Thus, we have (1) the *Bow*-planet, *Jupiter*; (2) the *Bow*-constellation, *Sagittarius*; (3) *Kakqasti*, the *Bow*-weapon-star, *Sirius*; and (4) a star or constellation, called simply the *Bow* (*Ban*, *Qastu*); and which may at times be one, at times another, of these, or even at times something different from any of them, since e.g. *Héraklēs-Engonasin* is a bowman. In *K.* 12,099 we meet with the stars *Kha*<sup>2</sup> (‘the Fish’), *Idkhu* (‘the Eagle’), and *Ban*. On the face of it, we should imagine that the scribe was observing the constellations the *Archer*, *Eagle* and *Dolphin*, which lie together. In *K.* 12,136 *Ban* is mentioned with *Khi-se* (= *Spica*? Vide Vol. I.

<sup>1</sup> In *W. A. I.* IV. (2nd edit.) lii. Col. iv. 11, where the *Kakkab Ban* and the *Kakkab Kaksisa* are, with other personages, implored to deliver, Prof. Sayce understands the former as *Sagittarius*, and the latter as *Sirius* (*Rel. Anct. Babs.* p. 509).

<sup>2</sup> For this reading vide Brünnow, *Class. List*, p. 339. It is not the usual form of the word, and that used to denote *Pisces* and *Piscis*.

65), *Entenamashuv* and *Kaksisa*. It is clear that *Ban* and *Kaksisa* are distinct; and if *Ban* here=*Sirius*, then *Kaksisa*=*Procyon*. In *K.* 12,654 *Qastu* (*Ban*) is mentioned with *Sukudu* (*Kaksisa*, vide *sup.* p. 121 n. 1) and *Aqrab* (Ak. *Girtab*, 'the *Scorpion*'). But the full text of these Tablets is not before me, and as the astronomer-scribes are wont to range very freely over the heavens, we gather but little from the mere association of names. In *Tab.* 81-7-6, 102 the *Kakkab Ban* is styled *Dilbat* (an ordinary name of *Venus*) in Ab, the fifth month. This might mean that it was then a special 'Proclaimer.' On the whole, however, *Ban* is comparatively but little mentioned; and if it be *Sirius*, this circumstance is somewhat surprising. On the other hand, *Kaksisa* is constantly mentioned in the Tablets, just as we should expect *Sirius*, brightest of stars, to be a very prominent subject for observation. Thus, *e.g.*, we find it mentioned

In *Tab.* *K.* 6507 with *Supa* (=Castor and Pollux. Vide *sup.* p. 77), *Li-e* (=Crater. *Sup.* p. 108) and *Sar* (=Regulus).

In *K.* 7661 with *Mul* ('The Star,' *i.e.*, the Pleiad; archaic Chinese *Mol.*) and *Girtab* (=Scorpio, wholly or in part).

In *K.* 7931, which states that it is copied from 'old documents' in Bâbilu with *Girtab*, *Idkhu* ('the Eagle'), and *Kha* ('the Fish.' Probably the Dolphin. Vide *sup.* p. 130).

In *K.* 10719 with *Tsir* (=Alphard. Vide *sup.* p. 109) and *Urgula* (=Leo. Vide Vol. I. 62). But all this is inconclusive, and we must await more light. I, therefore, leave the judicious reader to make his choice between *Sirius* and *Procyon*.

The last of the seven *Lu-mâsi* stars is *Sibzianna*. We have seen reason to believe that the double Hellenic *Boôtês-Ôrîôn* is a reduplication of a double Euphratean *Sibzianna* (Vide Vol. I. 287-8), a fact further illustrated by the circumstance that, as noticed (*Sup.* p. 110), the *Lu-mâsi* were also grouped as twins. A careful consideration of the evidence, so far as known to me, induces me to believe that there were a pair of 'Shepherds of heaven' in the Euphratean sphere, one in the northern, the other in the southern hemisphere. As single stars this pair were *Arcturus* and *Betelgeuse* ( $\alpha$  *Orionis*), respectively 4th and 9th in order of brightness of the 20 first magnitude stars. As constellations the 'Shepherds' were *Boôtês* and *Ôrîôn*. In the latter constellation, *Betelgeuse* and *Bellatrix* ( $\gamma$  *Orionis*) also form a pair of twins. *Betelgeuse* is near the ecliptic and *Gemini*, and therefore forms part of the *Sibzianna* alluded to in *K.* 1551, where *Jupiter* is said to enter *ana libbi Sibzianna*, which may be rendered 'to the place' or 'region' of *Sibzianna*.<sup>1</sup> Thus, too, when in a Tablet (Vide Vol. I. 338)  $\gamma$  *Geminorum* is defined as 'the Twin of the Shepherd,' the 'Shepherd' in question is either *Betelgeuse* or *Ôrîôn*, the latter being also called in Euphratean parlance *Dûzi* or *Dûwuzi* (=Tammuz) and *Ningirsu* ('Lord-of-the-River-bank'), the *River* in question being constellationally the *Eridanus*, which, in origin,=the Euphratês (Vide *sup.* p. 23). But, in addition to the excellent astronomical argu-

<sup>1</sup> In Vol. I. 288, I have translated *ana libbi*, 'to the midst,' but the rendering above suggested is preferable in this passage. At the same time, it is, of course, impossible to say what was the exact northern boundary of the Euphratean *Ôrîôn*. Even at present the constellation extends into the region of the ecliptic.

ments of Mess. Sayce and Bosanquet, founded on Tab. K. 8538 (Vide Vol. I. 287), there are other passages which mention a *Sibzianna* which cannot well be referred to *Orion* or to any part of it. Thus, in *W. A. I.* III. liii. No. 1, Rev. l. 26-7, after mention of 'the Star of Marûdûku' (= *Dilgan-Capella*. Vide Vol. I. 221), we read:—*Kakkab sa arki-su nazu-zu, kakkab Sibzianna, ilu Papsukala, rukha raba e-ku* ('The star which behind it is fixed, the star *Shepherd-spirit-of-heaven*, the god the *Guardian-messenger* [*Pap*='male,' 'youth,' 'to depend'; *sukala*='messenger'], portends a great wind'). Now this description cannot be applied to *Orion*, which is not fixed 'behind' *Capella*; but is, practically, parallel with it. On the other hand, *Arcturus* is fixed behind *Capella*; nor is there any other first magnitude star between them. And the further defining of this *Sibzianna* as 'the god Papsukala,' is, I think, intended to differentiate between *Sibzianna-Papsukala* and *Sibzianna-Ningirsu*. Papsukala, the tutelary divinity of the tenth month, Dhabitu (Tebet), is described as the 'attendant of Anu and Istar,' 'lord of bliss,' 'lord of the earth,' 'the Falchion,' and husband of 'the Queen of Copper' (= *Istar-Kypris-Aphrodîtê*. Vide *Trans. S. B. A.* iii. 170). In the legend of the Descent of Istar to the Under-world, it is Papsukala, 'the messenger of the mighty gods,' who, being evidently in some special way a guardian of the earth, and particularly during the absence of the sun, informs the Sun-god of the woe wrought by the departure of the goddess. Thus, whatever Papsukala may have primarily represented, it is clear that, in a stellar aspect, he is identical with *Sibzianna-Arcturus*, the heavenly shepherd-guardian and



brightest star north of the ecliptic. In *W. A. I.* II. xlix. 8 Papsukala is styled *Ul-mi* ('the Sign-of-evening'), an appellation which further tends to identify him with *Arcturus*, often so conspicuous an object in the evening sky; and, in a stellar aspect, a very suitable husband for *Istar-Venus*.

Papsukala is described as being actually a weapon, Ugur ('the Falchion.' Sayce.); and one of the chief weapons of Merôdakh in his battle against Tiâmat is the *saparu*, *khereb*, *harpê*, 'sickle-shaped sword,' 'scimitar' (Vide Vol. I. 180; *sup.* p. 71), whilst another is the *mul-mul-lu* ('Spear.' L. W. King. 'Club.' Sayce.), a word compounded of the ideographs Star + Star (*i.e.* intensive)='the Very-light.' The basis of this apparently singular symbolism is that the stars, and especially the greatest stars, are important weapons of the Light-powers against Darkness. And this line of thought brings us to an interesting historical development of the idea. We have seen (Vol. I. 285) that the names *Arktouros* and *Boôtês* were at times used interchangeably, 'as if the great star were a compression of the constellation, and the constellation an expansion of the star'; and we observe that the star itself is spoken of as a weapon. When, therefore, the star and constellation are personified in a human figure, this figure is naturally represented as armed with some weapon. A Sem. name of *Sibzianna* was *Sa ina kakki makhtsu* ('He who fights with weapons.' Sayce, in *Trans. S. B. A.* iii. 173); and hence in Classical times *Boôtês* is *Hastatus*, *Lanceator* (= *Mulmullu*), and *Arktouros* is (Ar.) *Simâk-al-Râmih* ('The Prop-of-the-Lance-holder'). The *Shepherd-spirit-of-heaven* becomes in Ar. *Hâris-al-Samâ* ('The Guardian-of-heaven.' Vide Vol. I. 285).

The importance of this stellar *Guardian-of-heaven* is remarkably attested by certain special invocations. The following (*K.* 2801 + *K.* 9490), of the age of Assurbanipal, contains a prayer to be recited 'on the occasion of an eclipse of the Moon,' and is thus translated by Mr. King:—

1. 'O *Sibziana* . . . 2. Thou that changest the . . .

3. In the heavens . . . 4. They bow down before thee . . .

5. The great gods beseech thee . . .

9. At thy command mankind was named (= 'created')!

10. Give thou the word . . .

11. Give thou my judgment, make my decision !'

'The object of the prayer,' says Mr. King, 'is to induce *Sibziana* to remove the evil spells, bewitchments, spectres etc., that have followed in the train of the lunar eclipse' (*Bab. Mag.* 115). The passage affords a good illustration of what Prof. Max Müller has termed Henotheism, *i.e.*, 'a belief in single gods' (*Selected Essays*, ii. 137), a state of mind in which the divinity for the time being invoked looms so large before the mental eye of the votary, that all others are practically excluded from his homage. This phase of religious thought, which constantly appears in the *Rigveda*, must not be confounded with Monotheism. Here, *e.g.*, *Sibzianna* is credited with the creation of mankind; for, to the Semitic mind, naming and creation are identical acts. No name, no existence. *Sibzianna* is implored by 'the great gods,' who, for the time being, are quite in the background of the worshipper's mind. But, it is also to be remembered that just as the star *Kaksisa* is identified with

the god Ninip (Vide *sup.* p. 98), so, doubtless, *Sibzianna* represented another of 'the great gods' in a stellar reduplication.

Tab. *K.* 3256 contains a hymn to the god *Sib* ('the Shepherd'); and *K.* 2803, an inscription of the time of Assurbanipal, relates to the temple of the god *Sib* in the city of Kharrân. *K.* 9000 contains incantations, prayers and the ceremonial connected with the cult of the god *Sib*, *sar mâsi* ('king of the night'). In *K.* 9003 Samas, the Sun-god, is styled 'king of the day,' and Sin, the Moon-god, 'king of the night.' It is therefore possible that the 'Shepherd' of *K.* 3256, 2803 and 9000 is the Moon, especially since the cult of Sin at Kharrân (Hârân) was of remote antiquity (Vide Hommel, *Anct. Heb. Trad.* p. 73). But, nevertheless, considering that *Sib*, Sem. *R'u*, does undoubtedly stand for *Sibzianna* (Vide Vol. I. 338) in some cases; considering further the importance of the position and cult of *Sibzianna*, and that *Arcturus* is the brightest star of the northern hemisphere, I think, on the whole, we shall be right in applying these passages to that star. Each Euphratean town and district had its own special and peculiar patron stellar divinity. Thus, *Dilgan* (*Capella*) was the patron star of Bâbilu, *Margidda* (the *Wain*) of En-lil-ki (Nippur); and, if we are correct in the above opinion, *Sibzianna-Arcturus* would have occupied a similar position at Kharrân, and, with the Moon and *Mercury*, would have formed a special celestial Triad there. A passage above mentioned (*Sup.* p. 133) connects *Sibzianna* with 'a great wind.' This reminds us of the passage in Gemînos where he states that 'on the xiith day of the *Fishes*, according to Euktêmôn, Arktouros rises in the evening and Protrygêtêr [Lat.

*Vindemiatrix*, & *Virginis*] appears : moreover a cold north wind blows' (Ap. Petav. *Uranol.* p. 68). As we have seen (Cf. Vol. I. 324), the early Greek star and weather calendars were largely based upon Semitic originals.

But other cuneiform passages apparently refer to the southern *Sibzianna*. Amongst these is that in the *Tê Tablet* above quoted (*Sup.* p. 16), which connects *Sibzianna* with the stars of *Gemini* and the third month. *Gemînos* says that on the xxivth day of the *Twins* 'according to Euktêmôn the shoulder of *Óríôn* rises, and according to Eudoxos, *Óríôn* begins to rise.' *Betelgeuse* (*Vide sup.* p. 132), according to the Hipparcho-Ptolemy Star-list, is 'at the right shoulder' of *Óríôn* (*Vide* Vol. I. 91). In *W. A. I.* III. lxiv. Rev. l. 8, we read :—*Ina arkhi Adari kakkab Sibzianna ina lib-su izzaz* ('In the month Adar [=Feb.-March] the constellation *Shepherd-spirit-of-heaven* in its place is fixed'). This, in all probability, applies to *Óríôn*. Eudoxos particularly mentions *Óríôn* in connexion with the xiiiith day of the *Fishes*. In *W. A. I.* III. li. No. 9, l. 18, we read that the Moon is declining *ina gag-gar* [Heb. *kikor*] *kakkab Sibzianna* ('In the region of the constellation *Sibzianna*'). Here the reference is probably to *Óríôn*, as *Arcturus* is so much further from the ecliptic.

In *Tab. Sm.* 1154, l. 4-5, we read :—'The constellation *Kha* (the *Fish*) to the constellation *Zibânîtum* (the *Claws*) is opposite. *Kha* to *Sibzianna* is opposite.' As the identification of *Zibânîtum* is certain, whether the *Fish* here be *Pisces* or not, it is almost certain that *Sibzianna* in this passage must mean *Arcturus*, which is in the neighbourhood of the *Claws*. The range of observation of the scribes is so

wide that the mere mention in the same Tablet of several stars by no means proves their proximity, even when there is no indication that they occupy positions far distant from each other. But, at the same time, it is obvious in certain cases that all the stars under consideration are in the same quarter of the heavens. Thus, in *K. 6227 Sibzianna, Lulim and Sugi* are mentioned, by which we may understand *Óríôn, Aries*, and the southern stars of *Auriga* (Vide *sup.* p. 118). In another instance *Ban, Mul, Kaksisa and Sibzianna*, that is to say, *Sirius, the Pleiad, Procyon* and *Óríôn*, appear named together. In *K. 11,099 Dilgan, Mul, Sibzianna and Kaksisa*, that is to say, *Capella, the Pleiad, Óríôn and Procyon*, are the subject of observations. *Tab. Sm. 1262 + Sm. 1271* takes a wider range, and mentions *Ban (Sirius), Sibzianna, Girtab (Scorpio), Sutul (=Sem. Níru, 'the Yoke,' =Muna-kha, Capricorn. Vide Vol. I. 81) and Sukudu (=Kaksisa-Procyon). Sibzianna* here perhaps=*Arcturus* or *Boôtés*. In *K. 7621 Sibzianna* appears with *Sugi, Wulmosarra (=the Wain. Vide Vol. I. 267), 'the Star of the River Masgugar' (=λ, μ Sagittarii. Vide sup. p. 92), etc.* Here, again, *Sibzianna* probably=*Boôtés*, including *Arcturus*. Such is the principal evidence at present available respecting *Sibzianna*, and I think that it fairly supports the conclusion above suggested.

### SECTION III.—THE *MÁSI* STARS.

In *W. A. I. III. lvii. No. 6, l. 57-61*, we have the following list of the *Mási* or 'Twin' stars:—

57. *Kakkab Mas-tab-ba-gal-gal, kakkab Mas-tab-ba-tur-tur;*

‘The asterism of the *Great Twins*, the asterism of the *Little Twins* ;

58. *Kakkab Mas-tab-ba sa ina lim-it kakkab Sibzina nazu-zu* ;

‘The asterism of the *Twins* which in the neighbourhood of the constellation *Shepherd-spirit-of-heaven* are fixed ;

59. *Kakkab Nin-sar, kakkab Ur-ra-gal* ;

‘The star *Lady-of-heaven*, the star of the *Great-city* ;

60. *Kakkab ilu Nabû, kakkab Sar-ur (û) Sar-gaz* ;

‘The star of the god *Nebô*, the star *Director-of-fire* (and the star) *Director-of-sacrifice* ;

61. *Kakkab Zi-ba-an-na, sibû Ma-a-su*.

‘The constellation *Life-maker-of-heaven*, seven *Twins*.’ Or ‘the seventh *Twin*.’

The *Great Twins*=*Castor* and *Pollux* (Vide Vol. I. 59 ; *sup.* p. 14). The *Little Twins* are not the *Little Twins* of the Lunar Zodiac (*Sup.* p. 74), but  $\gamma$  and  $\delta$  *Cancrî*. *Sibzina*=*Sibzianna*, and the *Twins* near *Sibzianna* will, in all probability, be  $\delta$  and  $\epsilon$  *Virginis*. This appears inasmuch as the next pair of *Twins*, *Ninsar* and *Urragal*, we have already (*Sup.* p. 83) seen reason to identify with  $\gamma$  and  $\eta$ ,  $\delta$  and  $\epsilon$  *Virginis* ; and nearly all the *Twins* belong to the region of the ecliptic and several of them to this particular part of it. Hence, the *Sibzianna* referred to will be *Arcturus*. ‘The star of *Nebô*,’ i.e., *Mercury*, is a *Twin* by virtue of his two phases, *Nabû* and *Nuzku*. As *Sulpa-uddu* (‘The Messenger-of-the-Rising-sun.’ Vide Vol. I. 343), *Hermès-Mercurius* is a Morning-star ; and *Nuzku*, the Evening-*Mercury*, reappears in a familiar Homeric scene ;—‘Now *Hermes* called forth from the halls the souls of the wooers,

and he held in his hand his wand that is fair and golden, wherewith he lulls the eyes of men, of whom so he will, while others again he even wakens out of sleep' (*Od.* xxiv. 1-4, ap. Butcher and Lang). That is to say, Hermês the Evening-star 'lulls,' and Hermês the Morning-star 'wakens.' This character and office of the Homeric Hermês as a shepherd of the shades of the dead, finds a prototype in Nuzku 'the messenger of "the lord of the ghost world"' (Sayce, *Rel. Anct. Babs.* p. 119). Even the magic wand of Hermês is earlier found in the hand of Nebô, 'the holder of the sceptre of power' (Vide Rawlinson, *Anct. Mons.* i. 141). *Sarur* and *Sargaz* we have already met with as  $\theta$  and  $\lambda + \nu$  *Scorpionis* (*Sup.* p. 90). The last of the *Twins*, *Zibanna*, was identified with the Sem. *Zibânîtuw*, origin of the Ar. *Azzubânay* ('the two *Claws*—of the *Scorpion*')= $\alpha$  and  $\beta$  *Librae* (Vide Vol. I. 70). But the Ak. name *Zibanna* ('Life-maker-of-heaven') was, in origin, unconnected with any word meaning 'claws.' It is a solar title which was applied to *Nidub* ('the Lofty-altar'), the original Sign of the seventh month (Vide *Ib.* pp. 70, 217). But it was also further applied to the planet *Saturn* (*Ib.* p. 346), between which and the sun there has always been a special connexion in idea. Thus, a Gk. name for *Saturn* was  $\delta \tau \omicron \upsilon \eta \lambda \acute{\iota} \omicron \upsilon \alpha \sigma \tau \eta \rho$ , and at times it was simply called *Hêlios* (Diod. ii. 30). So Servius, 'Apud Assyrios Bel dicitur quadam sacrorum ratione et Saturnus et Sol' (Ad. *Aeneid.* i. 729). Even Sir G. C. Lewis observes, 'The planets had, doubtless, been named by the Babylonians and the Egyptians, before they received names in Greece.' He probably means, 'Before they received the Greek names which we know.' People in Greece, as elsewhere, must have

called such splendid appearances as *Jupiter* and *Venus* by some names from the remotest age. He continues, 'The name of the *sun*, which was sometimes given to Saturn, was of Chaldaean origin' (*Astron. of the Ancs.* p. 290). Elsewhere he notes the statement of Platôn that the planets 'were first observed and first received names in Egypt and Syria' (*Ib.* p. 144), which merely means that the bulk of the knowledge respecting them reached the Greeks through the Phoenicians.

It will be observed that the two star-gods the 'Directors' of 'fire' and 'sacrifice,' or perhaps of 'smiting,' form the end of the tail, including the sting, of *Scorpio*. As noticed (Vol. I. 76) the sting of a scorpion is closely connected in idea with the stroke of lightning, Ak. *enum-gir* ('heaven-smiter'). Hence this pair of Twins are lords of (heaven-) fire, of smiting (=the divine blow from heaven) and of sacrifice. The Euphrateans, so observant of the signs of heaven, would not neglect to take the phenomenon of lightning into careful consideration; and its importance in their eyes is reflected, *e.g.*, in the famous legend of the god Zû (Vide R. B. Jr., *Sem.* II. xxiv.). Lightning certainly never obtained with them anything like such importance as it possessed in the religious system of the Etruscans. But it is certain that lightning-portents occupied a place of their own in the vast list of Euphratean ominous circumstances. Thus *Tab.* 79-7-8, 311 treats, on these lines, of the directions in which flashes of lightning travel; and various tablets treat of omens connected with the *Gir*, under which heading lightning was, in all probability, included. The Scorpion itself was a divine and terrible creature, specially connected with several



divinities, and afforded great subject for omens (Cf. Tab. K. 3956); and into such minute elaborations was the science pursued that Tab. K. 11,746 actually treats of omens to be derived from the stings of scorpions upon any particular toe of either foot.

Such are the seven stellar *Twins*, and in obtaining fairly accurate identifications of the *Tiksi*, *Lu-mâsi* and *Mâsi* stars, we materially increase our knowledge of the members of the heavenly host as viewed and catalogued by the early Babylonians.

## CHAPTER XIII.

### The Celestial Equator of Arâtos.

IN *H. D.* Appendix III., and subsequently more fully in my Paper *C. E. A.*, read at the Ninth International Congress of Orientalists, held in London in 1892, I have shown that the account given in the *Phainomena* of Arâtos of the constellation-figures lying on or near the celestial equator, was, owing to the precession of the equinoxes, quite incorrect when applied to his own age. At the same time I demonstrated that the poet's statements were perfectly applicable to the latitude of Babylôn, B.C. 2084; and thus astronomy seals the testimony of history and archaeology in designating the Euphratês Valley as the birth-place of the Signs of the Zodiac and of divers of their paranatellons (Vide Vol. I. 14-15). Arâtos, as we have seen, was innocent of astronomical knowledge, and was merely the versifier of one or more of the works of Eudoxos (*Ib.* p. 121); and the astronomical knowledge of the latter, despite the praises lavished on him by various classical writers, was evidently but of a rudimentary description. It has been remarked that 'Eudoxos, as cited by Hipparchos, neither talks like a geometer, nor like a person who had seen the heavens he describes. A bad globe, *constructed some centuries before his time*, might, for anything that appears, have been his sole authority.' Hipparchos, a practical astronomer, was surprised at the apparently

obvious and gross mistakes of his predecessor. He assumes, not unnaturally, that the statements of Eudoxos were intended to apply wholly to that writer's own age, and embodied his personal observations. In the interests of science, therefore, he proceeded to correct them. But although the statements in the *Phainomena* may, in some instances, be difficult to understand; although they may even occasionally be very hard to reconcile with any true presentation of the actual facts, and may at times suggest the idea that they are the outcome of the investigations of various observers working in different localities, yet we should not on this account cast them aside as being arbitrary or inexplicable, an evasion of the difficulty which has frequently been resorted to by scholars. The very fact that these statements are, as a rule, precise and definite, and form an elaborate whole or general scheme of the heavens; and, further, that they are recorded by an unscientific person, renders the question of their actual origin well worthy of the most careful investigation. As noticed (Vol. I. 14), Arâtos always speaks of the constellation-figures as of unknown antiquity, and he thus describes the celestial equator, the particular feature of his scheme at present under consideration:—

' In midst of both,<sup>1</sup> vast as the *Milky Way*,  
A circle trends 'neath earth like one in twain;  
And on it twice are equal days and nights,  
At summer's close and when the spring begins.  
As mark there lies the *Ram*, and the *Bull's* knees;  
The *Ram* along the circle stretched at length,  
But the *Bull's* crouching legs alone appear.  
And on it is the bright *Orion's* belt,  
The *Water-serpent's* gleaming bend; the *Bowl*

---

<sup>1</sup> *I.e.*, half-way between the Tropics of *Cancer* and *Capricorn*.

But small, the *Crow*, some few stars of the *Claws* ;  
 The *Serpent-holder's* knees are in it borne.  
 It does not share the *Eagle*, messenger  
 Of might, who flies nigh to the throne of Zeus :  
 On it the *Horse's* head and neck revolve '

(H. D. 511-24).

In illustration, then, of the archaic character, and of the Euphratean connexion of the observations recorded by Arâtos in reference to the celestial equator, I will take the constellations named by the poet in order, and compare his statements with a Star-map of the principal stars near the equator, compiled for the vernal equinox B.C. 2084, a date when the Euphratean formal scheme or chart of the heavens had been already completed. For that great astronomical work of the Babylonian savants the *Ēnu Bili* (Vide Vol. I. 331), which consisted of at least 72 books, in its earliest form is as old as the days of king Sargina ('the Established') of Akkad, B.C. 3800. On comparison with the map it will be observed that in every instance except one (Vide *inf.* p. 146), the description of Arâtos exactly agrees with the position of the constellation-figures in the Babylonian heaven at the era indicated. We commence with the *Ram* 'along the circle stretched at length,' *Aries*, (Ak.) *Lulim* ('Ram'), called (Sem.) *Kusarigqu* ('the Strong-horned-one'), the name *Lulim* also being given to *Hamal* ('the Ram,' a *Arietis*). Next come 'the Bull's crouching legs' (Vide *sup.* p. 42), *Taurus*, (Ak.) *Gut-anna*=(Sem.) *Alap-samê* ('Bull-of-heaven'), containing *Mul* ('the Star'),=the Pleiad, also called *Tê* ('the Foundation.' Vide Vol. I. 57), and *Pidnu* ('the Furrow.' Vide *Ib.* p. 338),= *Aldebaran*.

We now come to the single instance in which the

text differs from the facts of B.C. 2084. Says the poet, 'On it is the bright *Óríôn's* belt.' In B.C. 2084 the *Belt*-stars were not on the equator, but about  $12^\circ$  below it; and at the present time  $\delta$ , *Mintaka* ('the Girdle') is immediately below it. Hence, at the era of Eudoxos these stars were more than  $6^\circ$  below the equator. Supposing Arátos to have written ζώνη, which he almost certainly did, it must be concluded that we have here an attempt on the part of Eudoxos to correct the ancient statement, and so bring it up to date; for it is exceedingly improbable that the original account should be so exactly accurate in every other instance, and so very incorrect in this. But even this correction on the part of Eudoxos, an unskilled astronomer, still left his account very inaccurate. Nor is it difficult to see how the error might arise; for, whilst any one would know the *Belt* of *Óríôn*, λ, the nebulous stars in the *Giant's* head might well escape attention. Consequently the revised version would mention ζώνη, whilst the archaic account would mention κεφαλή—not, be it observed, 'the bright head of *Óríôn*,' for the head is comparatively dim, but 'the (dim) head of bright *Óríôn*.' In restoring the archaic account we may therefore read:—

ἐν δέ τέ οἱ ΚΕΦΑΛΗ εὐφειγγέος 'Ωρίωνος.

We next come to 'the *Water-serpent's* gleaming bend,' and observe that the stars α, μ, and γ *Hydrae*, and also α *Crateris*, a star common to the two constellations (Vide Vol. I. 106), are all almost exactly upon the equator. The Sum.-Ak. and Sem. names connected with these and the other equatorial constellations have already been referred to (Vide *sup.* pp. 24-26). The equator passes through the *Bowl* and

*Crow*, and some few stars of the *Claws* (*Chelai-Libra*); and next reaches 'the *Serpent-holder's* knees,'  $\eta$ , the star 'at the right knee' (Vide Vol. I. 43), being almost upon it. 'It does not share the *Eagle*,' but 'on it the *Horse's* head and neck revolve.' Thus,  $\epsilon$  *Pegasi*, 'the one in the muzzle' (Vide *Ib.* p. 47), is a very little way below the equator.

Such, then, is the truly remarkable agreement between the poet, a learned literary man but no astronomer, and in matters astronomical merely a copyist, and the actual astronomical facts of 1800 years before his time. But, mark what necessarily follows. These very constellation-figures, which, according to the literary judgment of the poet, belonged to a remote antiquity, must have existed at the period B.C. 2084, and must have then been described as occupying the positions assigned to them in the poem of Arâtos. No one would or could say that the *Water-serpent's* gleaming bend was on the equator at a period when the constellation itself had not been formed. And so with the rest, and when we turn from the necessary deduction to the facts of the case, we find in the literature of this remote period and also in its art these very constellation-figures. I have referred to them in previous places in this work, and in *H. D.* I have given pictures from the monuments of the *Bull*, the *Water-snake*, the *Crow*, the *Claws*, the *Serpent* and the *Horse*. In *E. S. R.* Pt. iv. I have given two pictures of the *Eagle* (Vide *inf.* Fig. iii. p. 198), one of them showing how the stars in the constellation were accommodated to the figure of the bird.<sup>1</sup> It, therefore, follows

<sup>1</sup> On this subject, vide generally *sup.* Chap. X.; *inf.* Chap. XVII.

that in the third millennium B.C. the Euphratean Sphere contained our familiar Signs of the Zodiac, and also various other of the extra-zodiacal constellations now marked on our globes. For, in this list of equatorial constellation-figures, we have three zodiacal Signs, the *Ram*, *Bull* and *Claws* evidently occupying the same relative positions which they do to-day; whilst the same remark equally applies to the extra-zodiacal constellations *Óríón*, *Hydra*, *Crater*, *Corvus*, *Chelai*, *Serpentarius*, *Aquila* and *Pegasus*. We had already arrived at this conclusion by the aid of independent literary evidence (*Sup.* Chap. IX.) entirely unconnected with the results of precession or any other astronomic law. But it is well that the great clock of the universe which cannot deceive, and whose unerring and untiring hands point alike the years and the ages, should add its striking testimony in confirmation of historical, archaeological, and linguistic research.

There is one constellation-name on the Map (Fig. II.) which has not been previously mentioned, *Khu-zaba*, which is found in *W. A. I.* II. xlix. 39. *Khu* ('Bird') occurs in each of the names of the three constellations which represent the three Demon-birds, opponents of Marduk-Hêraklês, the other two being *Id-khu* ('the Eagle') and *Raditarta-khu* ('the Lammergeier: Vol. I. 35; *Sup.* p. 25). The *Ak. Zaba* = Sem. *Qistu* ('Forest.' Vide Brünnow, *Classified List*, p. 482), the full name being 'the Bird-of-the-Forest,' i.e., the Kite, which, like the other two, is a fierce bird and habitually builds in forest trees. As noticed (Vol. I. 126), this constellation was known to the Athenian astronomer Euktêmôn, B.C. 432, as *Iktînos* ('the Kite'), Lat. *Milvus*, *Milvus*. The use of

Fig. 1

INCIP

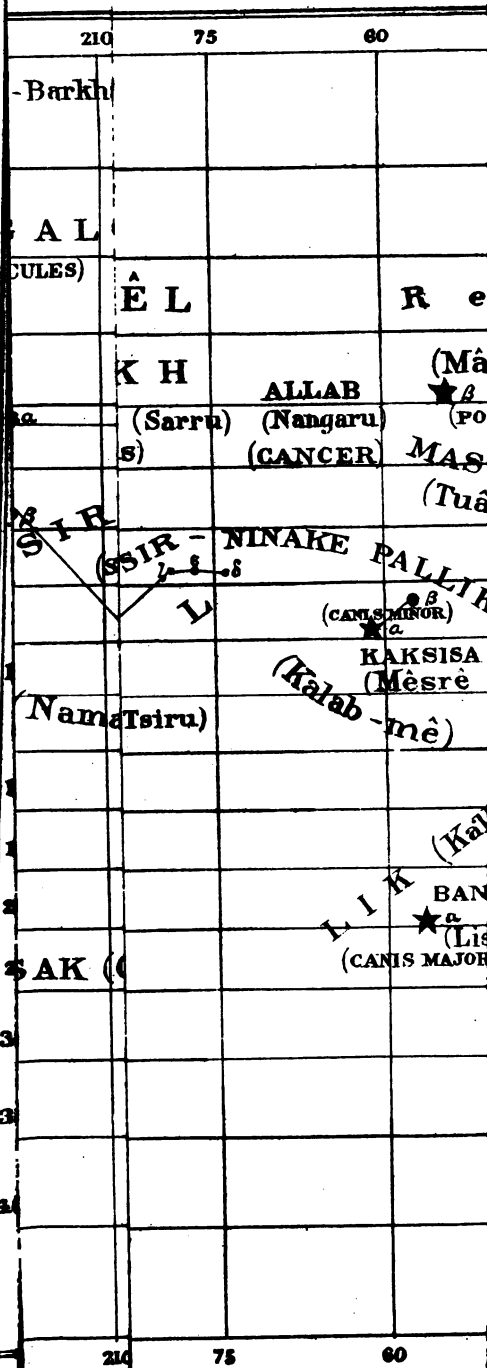
MAGNITUDES

1<sup>st</sup> ★

2<sup>nd</sup> ●

3<sup>rd</sup> ●

4<sup>th</sup> ●







the vague name *Ornis* is thus explained by Hyginus;—

‘*Olor*. Hunc Graeci *Cygnum* appellant : quem complures *proptes ignotam historiam illis*, communi genere avium *Ornin* nominaverunt, de quo memoriae prodita est causa’ (*Poet. Astron.* ii. 9).

In the Map (Fig. II.) the Sum.-Ak. names are in Roman letters, the Bab.-As. in ordinary type and in brackets, and the modern Lat. names in Roman type and in brackets.

## CHAPTER XIV.

### Further Consideration of the Euphratean Celestial Sphere.

#### SECTION I.—THE *DILBAT* TABLET.

THE *Tab.* 81-7-6, 102, for acquaintance with which I am indebted to the kindness of Mr. Pinches, may be dated cir. B.C. 500. It is, however, undoubtedly copied from earlier documents, for, as I have already had occasion to observe (*Sup.* p. 14), no one in the reign of Dârayavaush I. was engaged in bestowing star-names and mapping out constellations. The Tablet is of very considerable interest, and gives, but, singularly enough, not quite in their regular order, the 12 months with 12 special stars, each one of which has a peculiar relation to some particular month. It did not, however, end with these 12 stars and months, but continued (l. 13) :—

*Kakkab Mar-gid-da* (=*) kakkab Dil-bat ina samsi-êrîbi.*

‘The constellation the *Long-chariot*—the star *Ancient-proclaimer* at sun-set.’

Now it is one thing to translate a cuneiform inscription correctly, and it is another to understand it rightly when it is translated ; nor are these two pieces of knowledge always combined. One of the most obscure departments of Euphratean astronomy and astro-theology is the connexion between the divinities and the stars ; and here, as usual, I use the term star

in its comprehensive meaning, as including alike constellation, asterism and planet, as occasion may require. Numerous inscriptions contain parallel columns, and, in these cases, the line in the second column has usually a special relation to the line in the first. Sometimes it contains an exact Sem. translation of a Sum.-Ak. name or word, *e.g.* (Ak.) *Ka-édinna* = (Sem.) *Annabu* ('Hare'). Sometimes it contains not an exact translation, but an equivalent. Sometimes it contains the name of a divinity, who frequently is not identical but only specially connected with the subject-matter of the first column. Sometimes, again, the subject-matter in the second column is either entirely independent of, or only remotely connected with, the subject-matter contained in the first column. It is, therefore, necessary to discriminate carefully in each instance ; as otherwise stars and gods get jumbled up together in hopeless confusion, conclusions obviously absurd are arrived at ; and, finally, the scribes are at times accused of having made mistakes in their statements. Now, as of course, cuneiform literature, like other human productions, is not free from imperfection ; nor need we suppose that the entire astral system of the Euphratês Valley was absolutely harmonious and free from a certain amount of variance and even of contradiction. But the theory of a mistake in a document which we are endeavouring to construe, should always be the last hypothesis of explanation ; and it will be safe to assume, except in the face of overwhelming evidence to the contrary, that a Babylonian savant possessed a knowledge of his subject equal, if not superior, to that of even the youngest modern critical investigator. In order to give a lucid presentation of the matter to the general

reader, I will illustrate the foregoing principles by examples:—

Dr. Brünnow's *Classified List* is a work as admirable as it is laborious, and of the greatest value to all Assyriologists. But there are always spots on the sun, and thus on p. 3, we find '*Dil-gan*' explained as '*Marduk* : planet *Jupiter*.' '*K. Dilgan*==*K. Lu-bat-gut-tav*.' Also== '*K. Su-gi*.' Now *Dilgan*, as we have seen (*Sup.* p. 40), is not *Jupiter*, but *Capella*. It is also not *Sugi* (*Vide sup.* p. 118). How, then, came Brünnow to make these extraordinary equations? Simply, as his references show, because in *W. A. I.* II. lvii. 46 A we have '*Dilgan*,' and, in the parallel column (B), we have '*Ditto*,' which refers to a statement above it, in l. 44, *Nûr ili Lubatguttav* or *Lubat-gud*, as some read it, '*A light of the god Jupiter*.' That is to say, there is some special connexion, according to the Bab. theory of the matter, between the planet *Jupiter* and certain stars of which *Capella* is one. They are not *Jupiter*, but, in some special sense, are '*lights*' of *Jupiter*. Next, as to *Sugi*, Brünnow arrives at the equation *Dilgan*==*Sugi*, because in *W. A. I.* II. xlix. 3, to which he refers, *Dilgan* and *Sugi* appear in parallel columns (C and D). But what is the Tablet about? Why it contains a list of '*12 Stars of the West*,' their names in parallel columns, 6 in each. *Dilgan* heads the first column, *Sugi* the second. If I were to give a list of 12 kings of England, similarly arranged and beginning with William I., and were to interpret on similar principles, we should arrive at the equation William I. =John. The scribe is simply filling up his tablet with star-names; the second column is only connected with the first in the same general way as,

in a historical aspect, John is with William I. This shows how easily even experts may fall into singular errors, unless a right principle is adopted at the outset; and I lay stress on the question of the real connexion between parallel columns, because any hasty or malignant critic (and such unfortunately there are) may be eager to assert that I have overlooked this or that text, which shows that such and such a star was only a name for some planet or planet-divinity.

To take another instance. Not all examples can be as clear as the last; we are moving amongst singular intricacies, and endeavouring to wind a very tangled skein, but we must do our best. In *W. A. I.* II. xlix. 11-13, A B, we find:—

*Kakkab Dil-nu. Ilu Is[tar.*  
*Kakkab A-nu-nî-tum. Ditto.*  
*Kakkab A-rî-tum. Ditto.*

In *K.* 4195 we find:—

*Kakkab A-nu-nî-tum. Dil-bat.*  
*Kakkab A-rî-tum. Ditto.*  
*Kakkab Is-kha-ra. Ditto.*

It will be remembered that *Dilbat* (= *Venus*) is the chief planetary name of the goddess *Istar* (= *Aphrodîtê*). *K.* 4195 goes on to place *Girtab* and *Iskhara* in parallel columns. If, then, we treat all these as mere equations, we shall be happy *e.g.*, in such a result as *Girtab*=*Iskhara*; but *Iskhara*=*Dilbat*, and *Dilbat*=*Istar*. But *Istar*=*Anunîtum*,  $\therefore$  *Girtab*=*Anunîtum*. But, referring to the Tablet of the 30 Stars (*Sup.* pp, 90, 92), we see that *Girtab* and *Anunîtum* are absolutely distinct; and found reason to hold that *Girtab*= $\theta$ ,  $\iota$ ,  $\kappa$ ,  $\lambda$  and  $\nu$  *Scorpionis*, whilst *Anunîtum*= $\lambda$ ,  $\mu$  *Sagittarii*, and neither of them=the planet *Venus*. The *Kakkab Anunîtum*, as we saw, means

'the Star of the Great Goddess.' 'The Great Goddess'=Istar, and *Venus* is her special and particular star. Yet has she others also, and amongst them are  $\lambda$  and  $\mu$  *Sag*. We gather, therefore, that this location in columns by no means necessarily signifies an equation, and, at the same time, certainly indicates a special connexion. Istar, goddess of *Dilbat* (*Venus*) is, in some way, specially connected alike with *Dilnu*, *Anunîtum*, *Arîtum*, *Iskhara*, etc.

Let us now return to l. 13 of the *Dilbat* Tablet. We have seen (Vol. I. 266-9; *sup.* p. 17) that *Margidda*=the *Wain*, whilst *Dilbat*=*Venus*. The scribe cannot, therefore, intend the bald equation the *Wain*=*Venus*, which is absurd. He evidently means that 'at sunset,' for it is of that particular time he speaks, when 'night starts from heaven,' as Homer says, and the bright *Wain*-stars almost at once become visible, *Margidda*, the ruler of the ghost-world, acts as an ancient proclaimer of eve, is in effect a *Dilbat*; and, in this sense, the *Wain*=*Venus*. Line 13 is followed by 5 'doubtful' lines, the first of which similarly identifies another star with *Dilbat*, after which the text is broken. Bearing the above-mentioned principles in mind, let us proceed to consider the 12 stars of the 12 months as given by the Tablet:—

1. 'The star *Ninsianna*=*Dilbat* in the month Nisan.'

As we have seen (Vol. I. 346), *Ninsianna* ('Lady-of-the-garden-of-heaven') is a name of Istar as the planet *Venus* (*W. A. I.* II. lxix. 20). At the commencement of the year, then, Istar herself, in her own proper planet, is the 'Proclaimer.' *Venus* is often styled *Ninsianna*; thus *W. A. I.* III. lxiii. contains an account of twelve ancient observations of the planet from Bâbilu, in which this name is employed. It was

usual also for a planetary divinity to have different names for different months. Thus, according to *W.A.I.* III. liii. No. 2, Marduk (= *Jupiter*) was styled *Dunghaduddu* ('the Hero-of-the-rising-sun'), also at times a name of Nabû-*Mercury* (Vide Vol. I. 345), in Nisan; *Utultar* ('the Light-of-the-heavenly-spark') in Iyyar; *Dilgan* ('Messenger-of-light') of Bâbilu in Sivan; *Dapinu* ('the Circler') in Tammuz; *Dir* (the 'Dim,' or perhaps the 'Blue') in Ab; *Sak-risa* ('the Face-voice-of-light'), also a frequent name of *Mercury*, in Elul; *Nîbiru* ('the Strider-along') in Tisri; *Rabû* ('the Mighty') in Marchesvan; *Alam* (the 'Guardian-spirit') in Kislev; *Sarru* ('the King') in Tebet; *Gal* ('the Great') in Sebat; and *Kha ili Êa* ('the Fish of the god Êa') in Adar, the month of the zodiacal *Pisces*, originally *Piscis*.

2. 'The star *Arîtum*=*Dilbat* in Iyyar.'

We have seen that this star is closely associated with Istar (Vide *sup.* p. 153). Jensen (*Kosmol.* p. 71) connects the name with the Heb. *Yoroh* ('to throw,' 'cast'); and regards *Arîtum* as the 'Bow'-star of Istar, goddess of the bow. Assuming, as seems probable, that *Arîtum* is a Sem. word, I agree in connecting it with *Yoroh*, whence is derived *Yôreh* ('Archer.' Cf. 1 *Chron.* x. 3). But the meaning of *Yoroh* here applicable to *Arîtum* is not 'to shoot' or 'cast' arrows, but 'to lay foundations' (Cf. Gk. *βάλλειν* *ἄστυ*); as in *Job* xxxviii. 6; 'Who laid the corner stone thereof?' The star *Arîtum*, the 'Proclaimer' of the second or *Taurus*-month, is not the *Bow*-star, which, as we shall see, is the 'Proclaimer' of the third month, but the Pleiad, *Tê* ('the Foundation.' Vide *sup.* p. 14), the foundation and starting-point of the archaic year. If, however, as is possible,



*Arîtum*, like the great majority of Euphratean star-names when read syllabically, is an Ak. word, then we must go to the Turko-Tatar languages for an explanation of it. Nor is one far to seek. The root *ar* (whence such forms as *ara*, *ari*, etc.) = 'company,' whilst *tam*, *tom*, *tum*, = 'heap,' 'collected' (Vide Vámbéry, *Etymol.* pp. 17, 165); whence *Arîtum* would mean 'the Collected-company,' 'Heap,' 'Cluster,' which, as we have seen (Vol. I. 272-4), is the meaning of the name *Pleiades*. The result, therefore, in either case is the same; and is, moreover, in exact accordance with previous instances. Thus, in the *Tê Tablet* (*Sup.* p. 16) *Tê*, Sem. *Têmennu*, the Pleiad, is one of the two protagonistic stars of the second month, Airu-Iyyar. In the second month, therefore, the Pleiad, *Mul* ('the Star'), succeeds *Ninsianna-Venus* in the special dignity of the *Dilbat* or 'Proclaimer' of the course of the year, and therefore also of divers other weighty matters therewith connected.

3. 'The star *Ban* = *Dilbat* in Ab.'

We have seen (*Sup.* p. 120) that *Ban* ('the Bow'), the Star of the Bow, is, in all probability, *Sirius*. The regular order of the months is here abandoned, and we pass from Iyyar, the second, to Ab (=part of July and August), the fifth. Assurbanipal calls 'the month Ab, the month of the appearance of the star of the Bow,' and relates how during his war against Teumman, king of Êlâm, Istar appeared in a dream to one of his seers. 'She held a bow in her hand,' and promised victory to Assyria (Vide Geo. Smith, *Assur-bani-pal*, p. 117). 'This,' observes Prof. Sayce, 'is the ordinary fashion in which Assyrian art portrayed the warlike goddess' (*Rel. Anct. Babs.* p. 277). I think that the Tablet of the

*Dilbat*-stars, all in some way specially connected with *Istar-Venus*, departs at this point from the regular order of the months in order to give the next highest place of honour after the Pleiad to *Sirius*, brightest of fixed stars, thus so specially connected with the war-like phase of *Istar* as goddess of the bow. The Gk. calendars, as of course, connect the *Dog* with this same period of the year. Euktêmôn placed its appearance on the first day of *Leo*, and it indicated the beginning of summer (Cf. Vol. I. 144, 157; *sup.* p. 127).

4. 'The star *Nunpê* = *Dilbat* in Elul.'

We have previously met with 'the Asterism of the Lordly-city,' i.e., Eriduga ('the Good-city'), and have found reason to identify it with ζ, σ and π *Sagittarii* (Vide *sup.* p. 93). Prof. Sayce states that 'Eridhu . . . took its name from its bow-like shape' (*Bab. Lit.* p. 93); or rather, perhaps, the sound-connexion between *Arî-tum* and *Eri-du* suggested the idea. We can see, however, the line of thought which connected this asterism with the goddess of the bow.

5. 'The star *Entenamasluv* = *Dilbat* in Tisri.'

This asterism, the 'Proclaimer' of the seventh month, has already been identified with 20 *Librae* and the stars adjoining (*Sup.* p. 86).

6. 'The star *Rap-pu* = *Dilbat* in Arakh-samna' (Marchesvan).

This star-name has been read *Ra-bû* ('the Mighty'), which as we have seen (*Sup.* p. 155) was a name of *Jupiter* in this month; and *Jupiter* may be intended by it. The name, however, may certainly be also read *Rappu*, a word derived from the Ak. *raba*, 'weak,' 'shade-of-the-dead'; and from *rappu* is derived in turn the Heb. *Rephaîm* (Cf. *Ps.* lxxxviii. 10), with the same meaning. Should *Rappu* be the cor-

rect reading, the meaning will be 'the Ghost'-star, with a probable reference to *Antarês*, the ill-omened star (Vide Vol. I. 73) connected with *Mars*, the planet of death.

7. 'The star *Gir-anna*=*Dilbat* in Kislev.'

If *Rappu*=*Antarês*, *Giranna* ('the Scorpion-of-heaven') will=the lunar asterism *Girtab* ('the Scorpion') which, as we have seen (*Sup.* p. 91), consists of  $\theta$ ,  $\iota$ ,  $\kappa$ ,  $\lambda$  and  $\nu$  *Scorpionis*. The patron-divinity of this asterism was, as noticed, 'Iskhara of the sea'; and we have observed (*Sup.* p. 153) that Iskhara, in some way,=*Dilbat* and Istar. Therefore *Girtab* is a star peculiarly connected with Istar. The divinity Iskhara-Istar appears to have combined male and female potentialities, for Iskhara 'is said to be a male deity whose wife was Almanu. . . . That the Phoenicians also knew of a male Istar is perhaps indicated by the Greek myth which made Eurôpa the wife of Asterios' (Sayce, *Rel. Anct. Babs.* p. 254, n. 1, 2). This doubtless is so, and the male Istar further appears in the Ashtar-Chemosh of the *Moabite Stone*. The androgynous concept of divinity is further illustrated by Baal being styled 'goddess' (LXX. in Hos. ii. 8; Zeph. i. 4); whilst, on the other hand, Ashartê-Ashoreth was styled by the Phoenicians 'king' and 'sun-god' (Vide Schlottmann, *Die Inscript Eschmunazars*, p. 143). If the star in l. 6 is *Rabû* (=Jupiter), then *Giranna* will probably=*Scorpio*. *Gir*, as noticed (Vol. I. 76) means 'lightning' as well as 'scorpion'; and throughout the connexion of Istar-Iskhara with *Giranna* and *Girtab* there runs the idea of the heaven-goddess armed with the arrows of lightning, connected by play of words with, and also, to some extent, reduplicated in, the fiery *Scorpion*.

8. 'The star *Uz* ('the *Goat*,'= $a^1 + a^2$  *Capricorni*, *Algedi* and *Secunda Algedi*. Vide Vol. I. 81)=*Dilbat* in Tebet.'

9. 'The star *Dilgan* ('Messenger-of-light.' *Capella*)=*Dilbat* in Sebat.'

10. 'The star *Kha* ('the *Fish*,'=part of *Pisces*)=*Dilbat* in Adar.'

11. 'The star *Sak* (Sem. *Rîsu*, 'the *Head*')=*Dilbat* in Sivan.'

We now return to the third month. 'The star of the *Head*' probably=*Pollux*, the star in the head of 'the easterly *Twin*' (Vide Vol. I. 338).

12. 'The star *Nagar-asagga* (=the centre of *Cancer*. Vide Vol. I. 60; *sup.* p. 24)=*Dilbat* in Tammuz.'

We thus obtain a list of 13 stars specially connected with *Istar-Venus*; and the Tablet not only reveals to us in part the peculiar and intricate relations between the planetary divinities and the fixed stars, but also assists in confirming various identifications already obtained. The androgynous character of *Istar-Venus* also fully appears in *W. A. I.* III. liii. No. 2, where she is described as 'a female at sunset,' 'a male at sunrise,' and 'an androgyne' etc.; but the passage does not concern the object of this work.

## SECTION II.—THE TWELVE STARS OF THE WEST.

The first part of the Tab. *W. A. I.* II. xlix. No. 1, which contained a list of '12 Stars of the land of Akkad,' is broken off; and only one of the 12 star-names is legible, *i.e.*, 'the star *Nibiru*,' called in *W. A. I.* III. liv. No. 5, l. 5, 'the god *Nibiru*,' which, as we have seen (*Sup.* p. 155), is a name of *Jupiter*

in the month Tisri. We observe, then, that such lists included under the term *mul*, Sem. *kakkab*, planets, single fixed stars, asterisms and constellations. The Tablet next proceeds to enumerate '12 Stars of the land of the West' (*mat Amurrû*); and, in the case of each locality, the list is, as of course, not intended to be exhaustive. Certain stars are selected, and the list is remarkable both for insertions and omissions, the reasons for which are now obscure. The 12 stars are given in parallel columns as follows:—

*Dilgan* (=Capella). *Sugi* (=southern stars of Auriga).

*Tsir* (=Alphard. Vide Vol. I. 360). *Kaksisa* (=Procyon).

*Mastabba-galgal* (=Castor and Pollux). *Bir* (=Aldebaran),

*Nin-makh* (=α and β Librae). *Lugal* (=Regulus).

*Zalbat-anu* (=Mars). *Allab* (=the centre of Cancer).

*Khu-sê-makh* (=Corvus). *Lula* (=α Cancri. Vide Vol. I. 360).

It will be observed that as *Jupiter* is included among the '12 stars of Akkad,' so *Mars* finds a place among the '12 stars of the West.' *Bir* ('the Vermilion'), also a name of *Mars* (*W. A. I.* III. liii. No. 1, Rev. l. 20), is, in all probability, 'the red eye of the Bull' (α *Tauri*). In *W. A. I.* III. lvii. 1 the star *Bir-va* is mentioned, and is said to 'face' *Jupiter*. This is not necessarily the former *Bir*, but may be another red star, e.g., *Antarès*. *Nin-makh* ('the Great-lady') = the goddess *Bêlit* (Vide Brünnow, *Class. List*, p. 446); and, as we have seen (*Sup.* p. 86), the *kakkab Bêlit* is α and β *Librae*. *Sê-makh*

(‘Seed-great’) appears to refer to the star *Khi-sé* (*Spica*. Vide Vol. I. 65). The *Bird (Khu)-of-the-great-seed* will be the adjoining constellation *Corvus*. The stars *Dilgan*, *Sugi*, *Kaksisa*, *Mastabba-galgal*, *Lugal* and *Allab* have been already fully noticed. Each of these 12 ‘stars’ is either in or adjoins one of the 6 zodiacal Signs beginning with *Taurus*.

### SECTION III.—THE FIELDS OF ANU, BÊL AND ÊA.

We now approach a subject of considerable importance, and also involved in much difficulty and obscurity, namely, the division of the celestial regions or of a portion of them, including the ecliptic, into three parts between the three great gods Anu, Bêl and Êa. That there was such a division in Bab. astronomy is certain, but were these several spheres of influence equal or unequal and what space did they respectively cover? Prof. Sayce remarks, ‘Prof. Hommel has shown (*Ausland*, Nos. 4-7, 1892) that the Spheres of the three “great gods” . . . corresponded to thirds of the Ecliptic, the sphere of Anu extending from the Bull to the Crab, that of Bel from the Lion to the Scorpion, that of Ea from Sagittarius to Aries’ (*Higher Crit. and Mons.* pp. 69-70). Prof. Hommel’s Map (‘Der Sternhimmel Babylonien um 3000 v. Chr.’) in *Die Astron. der Alt. Chal.* iii. 7, marks the space north of the ecliptic as the ‘region of the gods,’ and divides it between the three divinities in the way indicated by Prof. Sayce. According to this division, Anu has 3 zodiacal constellations, Bêl 4 and Êa 5. I imagine, however, that Prof. Hommel was not acquainted with *Tab.* 82-5-22, 512, which I do not think has been hitherto published. This

Tablet, unfortunately now very imperfect, gave a list of 12 Stars of the Fields of each of the 3 gods, 36 in all, these stars being, like the '12 Stars of Akkad' and the '12 Stars of the West' (*Sup.* p. 160), selections from the stars of a certain quarter of the heavens. In the Bab. uranography the ecliptic was the path or road through the regions of space; and, as such, was, as noticed (Vol. I. 361), styled (Ak.) *Kas Utu*, (Sem.) *Kharrân Samsi* ('Path-of-the-Sun'). As, however, it ran through the fields or regions of the three gods, it naturally became their path; and so, in *K.* 10,985, is called, in its several divisions, *Kharrân su-ud* [*Sûd* = Heb. *Sodeh*, 'Field'] *îli Anim* ('Path of the field of Anu'); *Kharrân su-ud îli Bîli* ('Path of the field of Bêl'); and *Kharrân su-ud îli Êa* ('Path of the field of Êa'). In *K.* 11,395 the 'path' or 'road' of Bêl is mentioned; and *Sm.* 781, of which unfortunately I have only 4 lines before me, and which contains observations of *Venus*, is very important in this connexion. We read:—

1. *Kakkab Dil-bat ina kharrân su-ud Êa ippukha: mat Martu-ki i-na . . . mat Num-ma-ki emid.*

'The planet *Venus* in the path of the field of Êa rose: the land of the West (Syria) with (*lacuna*) of the land of Êlâm appears.' Or 'is strong.'

2. 'The planet *Venus* in the path of the field of Anu rose: a prosperer (*na-kha-as*) for the land of *Num*' [*-ma-ki*, = Êlâm].

3. 'The planet *Venus* in the path of the field of Bêl rose: the land of Akkad in' . . .

Here the Êa-path is connected in special influence with the terrestrial West, *Mat Amurrû* ('the Land of the Amorites'), *Mat Mar-tu* ('the Land of the path of the Setting-sun'), just as in the celestial sphere the

Êa-region is in the West, *i.e.*, west of *Taurus*, the starting-point and foundation. Thus, the presence of a powerful planet in the Êa-region above is regarded as beneficial to the West on earth; for the Tablet evidently stated that some advantage was gained by Syria as against Êlâm. Similarly, when *Venus* is in the Anu-path, to the east of the Pleiad and in the eastern portion of the heavens, according to this division, the planet becomes a 'prosperer' of the land of Êlâm in the East. In the same way, when *Venus* is in the Bêl-path, she is a cause of prosperity to the land of Akkad, which is situated between Êlâm and the West, just as the region of Bêl includes the central portion of the ecliptic, between the fields of Anu and Êa. I may add that when the 4 quarters are connected with nations, the reckoning is Akkad N. (=our N.W.), Êlâm S. (=our S.E.), Gutium E. (=our N.E.) and Amurrû W. (=our S.W. Cf. Tab. K. 8484). Euphratean square pyramidal temples, like their Egyptian daughter at Saqqâra (Vide Vol. I. 69), were built with their angles towards the 4 quarters; and, hence, their N.=our N.W.

From the foregoing text we obtain fresh and independent proof of what portions of the ecliptic specially belonged to each of the three gods; and we are also reminded that *Venus*, or any other planet, could be equally one of the 12 stars of the field of Anu, of Bêl, or of Êa. We notice, moreover, the archaic connexion between parts of the heaven and certain terrestrial localities, a principle in full force in the astrology of the present time. In further illustration of the matter, we find a similar statement and similar principles in Tab. K. 3601. This is a Bab. document, and appears to have formed part of the *Ênu Bili* (Vide



Vol. I. 331), and therefore to belong to a period prior to B.C. 2000. We read (Ob. l. 1):—

*Kakkab Dil-bat ina kharrân su-ud Ê-a ippu-kha: mat Martu-ki ina khi-is mat Num-ma-ki emud.*

‘The planet *Venus* in the path of the field of Êa rose: the land of the West with the crown (Cf. *W. A. I.* III. lx. 17) of the land of Êlâm is strong.’

On this passage it is to be observed, first, that the As. text (*Sm.* 781) above quoted has obviously, like very many other As. texts, been copied from a Bab. version much older, from which, in this instance, we can even supply the *lacuna* in l. 1 of the As. copy. Secondly, that the whole system embodied in both texts ascends to a remote antiquity. The Bab. text may have primarily referred to certain actual historical events, as do other portions of the *Ênu Bili*. We are taken back to the period of Kudur-lagâmar and Khammurabi, when Êlâm was at one time so great even in the remoter West, and at another was defeated by a power which, compared with the land of Nummaki, was certainly the West. *Venus* in the Êa-region is of ill-omen for the East.

The same general principle is further illustrated in the important Tab. *K.* 1551 (Vide Vol. I. 288, where read, ‘The planet *Sakvisa* to the place’ instead of ‘to the midst’), which states:—

13. *Kakkab Sak-vi-sa* (=Jupiter).

‘The planet the *Face, voice-of-light*.’

14. *Ina kharrân su-ud A-nim inamm-ir: abil sarri aba-su.*

‘In the path of the field of Anu is seen: the son of the king his father’

15. *I-na-ar-va kussa itsa-bat. Kharrân su-ud A-nim*

‘Will slay, and the throne seizes. The path of the field of Anu’ (is) .

16. *Mat Num-ma-ki : a-na mat Num-ma-ki id-da-gi-il.*

‘To the land of Êlâm : for the land of Êlâm it-is-a-sign.’

Here *Jupiter* in the field of Anu, the eastern celestial region, specially concerns Êlâm, the eastern terrestrial region.

Again, in *W. A. I.* III. lix. No. 11, l. 8, we read :—  
*Kakkab Dil-bat ina kharrân su-ud D. P. Ê-a*  
(Vide *sup.* p. 164).

Most of the next line is lost, and part of l. 10, but the remainder reads :—

*A-na mat Mar-tu* (‘For the land of the West’).

Here, as before, the presence of *Venus* in the western celestial region, specially concerns the western terrestrial region. In *W. A. I.* III. liii. No. 1, Rev. l. 15, where unfortunately the text is somewhat mutilated, we find a statement connected with the present subject :—

*Gut-an-na se-pi-id tarbatsi su-ud Anim, kharrân Samsi.* [(*Kharrân su-ud A-nu*—*Kharrân Samsi*).

‘The *Bull-of-heaven* (*Taurus*) (is) the arbiter of setting of the field of Anu, the path of the Sun.’ [(‘The path) of the field of Anu—the path of the Sun’].

Here the words in square brackets are a gloss, the scribe explaining that by ‘the field of Anu’ is meant in this passage, not the whole field of Anu, but ‘the path of the field of Anu,’ i.e., the ecliptic. In l. 16 the *Bull* is described as *Ris bit-tarbatsi-su* (‘The Head of the house of its setting’), meaning apparently that *Taurus* is the first of the constellations of the field of Anu, the first to rise and therefore the first to set.

In *W. A. I.* III. li. No. 9, we read :—

17. *Ina kharrân su-ud A-nim*

‘In the path of the field of Anu,’

18. *Ina gag-gar* (Heb. *kikor*) *kakkab Sib-zi-an-na*  
(= *Óríón*. Vide sup. p. 132).

‘In the region of the constellation *Shepherd-Spirit-of-heaven*,’

19. (*Sin*) *it-ta-mar*

‘(The Moon) is seen.’

We here again find that ‘the field of Anu’ included *Taurus*, and that a *Sibzianna* was identical with *Óríón*. In l. 30-31 the scribe recounts a conjunction of the Moon with *Mercury*, which happened ‘in the field of Anu.’ In l. 26 the scribe states that the Moon appeared ‘below the constellation of the *Chariot*’ (*Rukûbu*, Heb. *Rekhev*); and proceeds :—

27. *Ina kharrân su-ud Bêli iz-za-az.*

‘In the path of the field of Bêl it waxes,’

and it advanced ‘towards (*ana*) the constellation of the *Chariot*,’ i.e., it drew closer to the *Wain*-stars as it passed through *Leo*, which latter constellation we thus note was in ‘the field of Bêl.’

In *W. A. I.* III. lix. No. 3, l. 18 we read :—

*Kakkab Sag-me-gar ina kharrân su-ud A-nim innamar.*

‘The planet *Jupiter* in the path of the field of Anu is seen.’

Such, then, generally, is the position of the fields of the three gods, and we will next notice *Tab.* 82-5-22, 512 (*Sup.* p. 161). The first paragraph contained a list of ‘12 Stars of the Field of Bêl,’ the stars in each case being named in parallel columns, like the ‘12 Stars of the West’ (*Sup.* p. 160). Very unfortunately the names of the 9 first stars of the Field of Bêl are

lost, and the names of the 10th and 11th stars only partially preserved. The tenth star is *Lik-gu* [-*la*], 'the *Lion*' (= *Leo*. Vide *sup.* p. 16). Thus, in *W. A. I.* III. lix. No. 13, we read:—

3. *Kakkab Lik-gu-la tsalmu*;

'The constellation of the *Lion* (is) obscured';

4. *Lîb-bi mâti lâ dhabu*.

'The heart of the land (is) not at rest.'

5. *Kakkab Lugal tsalmu*;

'The star of the *King* (= *Regulus*) (is) obscured.'

When the central portion of the ecliptic is obscured, the centre of the land and the central land (Akkad) are supposed to be unfavourably affected. The 11th star is *Su*. . . . It evidently is not *Su-gi* (Vide *sup.* p. 118). It may just possibly be *Su-gub-Gud-êlim* ('The-Left-hand-of-the-Horned-bull,' = *a Lupi* (Vide *E. S. R.* iv. 7); for, as we shall see, the fields of the three gods extended to the south of the ecliptic. There is also the star-name *Su-pa* ('the Lustrous.' Vide *sup.* p. 76), which Prof. Hommel (*Astron. der alten Chal.* iii. 16) thinks is applied to *Spica*, as indeed it might be to any bright star. *Spica* would suit the passage perfectly well, as it is one of the principal stars of the field of Bêl. In *K.* 12,690 *Supa* is mentioned with *Udgudûa* and *Gula* (Vide *sup.* p. 77). The 12th star is *Uz*, Sem. *Enzu* ('the Goat'), and this is neither *Capella* nor *Capricorn*, but the sixteenth Asterism of the Lunar Zodiac, 'the He-goat,' =  $\kappa$ ,  $\lambda$  *Virginis* (Vide *sup.* p. 85). Here is an illustration of the value of a correct understanding of the Tablet of the Thirty Stars; and this identification increases the probability that in this passage *Supa* is named, and signifies *Spica*. We thus obtain *Leo*, *Spica* and

$\iota$ ,  $\kappa$ ,  $\lambda$  *Virginis* for the 3 'stars' of the field of Bêl. The other 9 may very probably have been :—

*Alla*, Sem. *Tsiru* ('the Snake,' = *Alphard*,  $\alpha$  *Hydrae*).

*Margidda-Wulmosarra* (=the *Wain*. Vide Vol. I. 267 ; *sup.* p. 85).

*Sibzianna-Papsukala* (= *Arcturus-Boötis*).

*Mastabba sa ina limit Sibzina* ('The Twins in the neighbourhood of *Sibzianna*, =  $\delta$  and  $\epsilon$  *Virginis*. Vide *sup.* p. 139).

*Ninsar and Urragal* (=  $\gamma$ ,  $\delta$ ,  $\epsilon$  and  $\eta$  *Virginis*. Vide *sup.* p. 139).

*Imdugudkhu*, Sem. *Zû* (= *Corvus*).

*Nidub-Zibânîtum* (=  $\alpha$  and  $\beta$  *Librae*. Vide Vol. I. 70 ; *sup.* p. 86).

*Jupiter*, and

*Mars*. Planets were not excluded (Vide *inf.* p. 174).

The Field of Bêl, which, as we have seen, is specially connected with the Land of Sumir and Akkad, thus comes first. Next follows the list of the '12 Stars of the Field of Anu.' These are :—

. . . . -*makh*.

*Dilgan* (= *Capella*).

. . . . -*nitum*.

*Mul* (=the *Pleiad*).

*Gut-anna* (= *Hyads*).

*Sibzianna* (= *Ôriôn*).

*Kak]-sisa* (= *Procyon*).

*Ugaga-khu* (Sem. *Arîbu*, 'the Raven').

*Ab-nam*.

*Zibânîtam* (= *Zibanna*, = *Saturn*. Vide Vol. I. 346).

*An-ki-a-mes*.

*Id-Khu*.

As noticed (*Sup.* p. 161), the Field of Anu, according to Hommel and Sayce, extends from the *Bull* to the *Crab*, both inclusive. Whether it also included the *Ram* appears to me at present somewhat uncertain. But, in any event, the star-list before us presents, on the face of it, formidable difficulties. I am indebted to Mr. Pinches for the names, the correctness of which will be beyond doubt.

As regards the 1st star, there are various star-names ending in *makh* ('great'); but the star in question

cannot be *Lik-makh* (*Leo*), *Khu-sê-makh* (*Corvus*. Vide *sup.* p. 161) or *Nam-makh* ( $=\beta$  *Aquarii*. Vide *inf.* p. 175), since none of these are in the Field of Anu. We may read it *Nin-makh* ('the Great-lady'), and with Jensen (*Kosmol.* p. 71) understand this as a title of Istar (Vide *K.* 4195). Istar, as well as Bêlit (Vide *sup.* p. 86), might be called 'the Great-lady'; and, in this case, Star No. 1 would=*Venus*. But, on this view, what is Star No. 2? The only stars I know whose names end in *-nitum* are *Zibânîtum* ('the Claws'), *Anunîtum* ( $=\lambda, \mu$  *Sagittarii*. Vide *sup.* p. 92) and *Anunîtum*, as a name of Istar (*Venus*. Vide Brünnow, *Clas. List*, p. 463). But, if Star No. 1=*Venus*, Star No. 2 cannot=*Venus*. Now, considering that, as we shall see (*Inf.* p. 174), there are no stars of the *Ram* included in the Field of Êa, and how improbable it is that so important a star as *Hamal* ( $\alpha$  *Arietis*) should be altogether omitted, I incline to the opinion that the *Ram* was, at all events ultimately (i.e., when the year began with *Aries*), included in the Field of Anu, and I suggest that the name of the first star was \**Lulim-makh* ('The Great Ram'), which would also serve to distinguish it from *Lulim*, the xixth asterism of the Lunar Zodiac (*Sup.* pp. 65, 85). The second star-name I would restore as *Anunîtum* ( $=Venus$ ).

We pass on to the 5th Star *Abnam*. This, as noticed (*Sup.* p. 27), is also the name of an asterism of the 6th month, which cannot be identical with the *Abnam* of the Field of Anu. If *Abnam* here means 'Proclaimer-of-the-Sea' or 'of water,' it may=*Kak-kab Khigallâ* ( $=\eta, \mu, \nu, \gamma, \xi$  *Geminorum*), the 7th Lunar Asterism (Vide *sup.* p. 75). But *Abnam* also =Sem. *Shashurru* (Brünnow, *Clas. List*, p. 170),

Heb. *Shoshar*. ('Vermilion.' Cf. Jer. xxii. 14); and, if we are to understand it here as 'the Vermilion'-star, it will probably=*Betelgeuse* ( $\alpha$  *Orionis*), the largest of the 3 first-magnitude red stars (Cf. *Bir*, *sup.* p. 160).

We next come to a star-name which I have never met with elsewhere, the *Kakkab Ankiames*. *An*=Sem. *Samû* ('Heaven'), *ki* and *kia* (Vide Brünnow, *Clas. List*, p. 399)=Sem. *Irtsitu* ('Earth'), and *mes* is the plu. termination, the combination signifying 'the Asterism-of-Heaven-and-earth.' At first sight this may appear to be an almost impossible name for a star-group, but let us examine it carefully. One of the most important asterisms in the Field of Anu must be *Mastalba-galgal* ('the Great-twins'), *Castor* and *Pollux* (Vide *sup.* p. 16). Yet that name does not occur amongst the 12 stars here mentioned, whilst it is almost impossible to imagine that the *Twins* can have been omitted. Can this special and peculiar appellation 'the Asterism-of-Heaven-and-earth'=the *Great-twins*? Yes, and most appropriately. We have seen (Vol. I. 58-9) that the original Twins were the Sun and Moon, who are reduplicated in the zodiacal *Gemini*; and that the former mutually chase and expel each other from heaven, so that generally when one is up the other is down, and that this feature reappears in Euphratean art when the *Gemini* are represented (Vide Fig. vii. p. 231). We further saw that this primary fact is dimly, yet undoubtedly, reflected in the Homeric account of Kastôr and Polydeukês, who are said to be 'alive alternately,' i.e., when the one is in the Upper-world of the living, the other is in the Under-world of the dead (Vide Vol. I. 291-2). Here, then, we have the origin of the appar-

ently singular expression 'Asterism-of-Heaven-and-earth,' as applied to the stars  $\alpha$  and  $\beta$  *Geminorum*. They represent, by virtue of the Law of Reduplication, two stars (Sun and Moon), which, considered together, occupied at the same time heaven *and* earth. Hence, I conclude that *Ankiames*=*Mastabba-galgal*.

The stars *Dilgan*, *Mul* (Vide Vol. I. 357-9) and the southern *Sibzianna* (Ningirsu-Dûzu) require no further notice here; and I pass on to *Ugaga* ('the Raven,' vide Brünnow, *Class. List*, p. 260), which cannot be *Corvus*, as the latter is not in the Field of Anu (Vide *sup.* p. 168). According to Jensen (*Kosmol.* 152-4), *Unagga*, as he calls this star, is a comet. If, when the list was compiled, some particular comet was visible in the Field of Anu, it might well be included in the 12 stars of that Field. But, however regarded, the question of the explanation of *Ugaga* is a very difficult one. At first sight one thinks it ought to be, and must be, *Corvus*; and, again, why should a comet be styled a 'raven'? Jensen fully sees the difficulty in this idea, but facts are facts. The bird *Ugaga* is explained as 'the Raven,' and is stated to be a star of the Field of Anu, and we must make the best of it. As to the link in idea between raven and comet, the raven was also known to the Euphratean Semites as the 'Eye-picker,' and a horde of Elamites invading Akkad are compared to an invading flock of ravens (Vide *Trans. S. B. A.* viii. 81). Ravens were amongst the evil brood of Tiâmat (Vide Vol. I. 108), and the bird has nearly always been regarded as ill-omened. A comet might similarly be looked upon as an ill-omened bird of the sky. A somewhat detailed account of the *Ugaga* is given in *W. A. I.* III. lii. No. 2, l. 1-12. It 'faces *Sulpa-uddua*' (*Mercury*),



has 'a halo' round it, at times is 'misty' and again is 'not misty,' and is said to be *sizi*-colour. This word is rendered by the Sem. *arku* ('green'), and the Ak. *Khu-sizi* ('*Sizi*-bird'), the Sem. *Rakraku*, is the Black Stork. 'The whole of the dark plumage is varied with purple and copper-coloured and green reflections, so as fully to justify the name which the Accadians gave to this bird' (Houghton, in *Trans. S. B. A.* viii. 89). *Sizi* will be a green yellow, between sulphur yellow and gamboge; and Prof. Sayce well translates the term 'greenish-yellow.' *Ugaga* is further said to be 'like the god of fire,' Gibil (Vide pp. 79-81); and in its midst are '3 stars' (*Kak-kabāni*) very grey. Jensen translates, 'In seiner Mitte 3 Sterne sind sehr grau.' Other renderings of the passage have been given, but this seems to me to be the correct one; and it appears to be conclusive of the cometary nature of *Ugaga*. Line 12 states that it is opposite to the star *Nunki* ( $=\zeta, \sigma, \pi$  *Sagittarii*. Vide *sup.* p. 93), which places it in the neighbourhood of the *Bull* and in the Field of Anu. In *W. A. I.* III. liii. No. 1, l. 4, *Ugaga* is said to 'portend a fixed tariff'; and in *Ib.* liv. No. 6, l. 5, we read:—

*Kakkab U-ga-ga-khu kharrân Samsi iks-ud.*

'The star of the *Raven* the path of the sun attained.'

This statement, again, can, I think, only apply to some heavenly body which moves differently from a fixed star, as the latter is either always in or always out of the sun-path. No one has suggested that *Ugaga* is a planet, and planets also cannot well be said to attain the sun-path, as they are always in the ecliptic region. This statement respecting the attainment of the sun-path by *Ugaga* appears again in *K.*

3547, which formed the 56th Tablet of the *Énu Bili* (Vide Bezold, *Cat.* ii. 542). The *Ugaga*-comet, therefore, must have appeared in the third millennium B.C., to which period also the composition of the *Tab.* 82-5-22, 512, now under consideration, will belong. The account of *Ugaga* in *W. A. I.* III. lii. No. 2, above noticed, is followed by a notice of the *Kakkab Idkhu* ('the Eagle'), the only reason for placing them together being that they were 'stars named after birds' (l. 21). Observations of the *Raven* and *Eagle* also occur in *K.* 6194. In *K.* 9489 *Ugaga* is mentioned with *Jupiter* and *Bir* (Vide *sup.*), which latter may either be *Mars* or *Aldebaran*. In *K.* 11,816 *Ugaga* is mentioned with *Kaksisa* (*Procyon*), *Tsir* (*Alphard*), etc. Both these references appear to point to the Field of Anu, but I do not assert that the same Raven-comet is referred to in all notices of the *Kakkab Ugaga*.

The 12th and last star of the Field of Anu is *Idkhu* ('the Powerful'), the ordinary meaning of which is 'Eagle'; but as *Aquila* and *Altair* are far from this portion of the heavens, we must seek for another meaning for this name. Besides meaning *nasru* ('eagle'), *idkhu* also signifies *êrû* ('bronze,' *W. A. I.* V. xxxix. 46); and the *Kakkab Urud* ('Star of Bronze,' Sem. *Êrû*) is named *W. A. I.* II. xlix. 61. We observe by the inclusion of such stars as *Procyon* and such constellations as *Orion*, that the Field of Anu was not bounded on the south by the ecliptic. There is only one remaining first magnitude star in this quarter of the heavens, the star-king *Sirius*. He, surely, would not be omitted from the list, which, as appears from the case of *Ankiames*, has rather a partiality for unusual names; and we may, I think, safely

identify the 'Star of *Bronze*' with him. As noticed (Vol. I. 98) Ptolemy styles *Sirius* 'reddish-yellow,' the same epithet which he applies to *Aldebaran*, *Antares*, and *Betelgeuse*, the three great red stars of the present time. The question of the colour of *Sirius* I have already discussed (*Sup.* p. 124), but I will add a quotation from Ibn Alraqqâ (Ap. Albîrûnî, *Chronology of Anct. Nations*, ed. Sachau, p. 338) in further illustration:—

'I recognise *Sirius shining red*, whilst the morning is becoming white.

The night, fading away, has risen and left him.

The night is not afraid to lose him, since he follows her.'

Such, then, is the list of the 12 stars of the Field of Anu.

Lastly, we come to the '12 stars of the Field of Êa,' which are stated to be:—

*Gu-la* ('The Urn.' Vide Vol. I. 84-5; *sup.* p. 16).

*Nu-tsir-da* (Vide *sup.* pp. 21, 89, 96).

*An-u-giê* (=Anu-gê, 'Lord-of-the-Under-world').

*Nunpê* (=ζ σ π *Sagittarii*. Vide *sup.* p. 93).

. . . *an-lugal* ( . . . 'the god, the King').

*Papilsak* (=λ, μ *Sagittarii*. Vide Vol. I. 78-9; *sup.* 16).

*Subat, sa ina zumbi* ('The Powerful-one, which is at the tails.' Vide Vol. I. 81).

*Kha* ('the Fish').

. . . *mulu-khu* ( . . . 'lordly-bird').

*Nin-makh* (Probably=*Venus*. Vide *sup.* p. 169).

*Sar-ur* and *Sar-gaz* (=θ, ι, κ, λ and ν *Scorpionis*. Vide *sup.* p. 91).

*Muna-kha* ('The Goat-fish,'=*Capricorn*. Vide Vol. I. 81; *sup.* 93).

The stars *Gula*, *Nunpê*, *Papilsak*, *Sar-ur*, *Sargaz* and *Munakha* require no further notice in this place; nor is there anything strange in *Venus* being also considered as a star of the Field of Êa. If we understand *Nutsirda* here as=*Namassû* ('the Reptile'=*Ophis*), *Anugê* will doubtless=*Ophiouchos*. The position of *Hercules* and the *Snake-holder*, head to head, is a reduplication of the position of the *Twins* (Vide *sup.* p. 170). We saw (*Sup.* p. 39) that the Queen of the Under-world held a huge snake; and it is therefore natural that the King of the Under-world should do so likewise.

*Lugal* ('the King') will be *Antares*, who is so styled in the Tablet of the Thirty Stars (Vide *sup.* p. 88). *Subat* is almost certainly  $\beta$  *Aquarii*, otherwise styled *Nam-makh* ('The Mighty-destiny.' Vide Vol. I. 358). *Subat* is situated at the tails of *Capricorn* and the *Southern Fish*, which, or its chief star *Fomalhaut*, is probably the next star mentioned (*Kha*). Part of the name of the next star is lost. The Ak. *mulu*, the primary meaning of which is 'man,' also means *bêlu* ('lord'), and the 'lordly Bird' can only be *Idkhu* ('the Eagle'), a prominent star and constellation of the Field of Êa. It will be remarked that the scribe who composed this list is somewhat fond of employing unusual appellations. It is quite in keeping with his use of *Idkhu* in an unusual sense, and his application of it to a star other than the *Eagle* (Vide *sup.* p. 173), that he should not call the *Eagle* by its usual name. Some of the obscurities in astrologico-astronomical and religious documents may be designed in the interest of the esoteric. *Nam-makh* is mentioned with the five planets and *Dilgan* in K. 7951.

Such are the contents of this very interesting Tablet. We learn much from it, and gain the confirmation of various previous conclusions; but it does not inform us what was the extent northwards and southwards of the Fields of Anu, Bêl and Êa. On the whole, I gather that they did not include the mysterious Polar Region of the north, or the equally mysterious region of the extreme south, connected with the entrance to the Under-world.

#### SECTION IV.—THE POLE-STAR AND HIS COMPANIONS.

‘There is a certain star,’ says Hipparchos (Vide Vol. I. 269) ‘remaining ever at the same place. And this star is the pivot (πόλος) of the Kosmos.’ So, with fine instinct, Shakspeare makes the imperial grandeur of his Cæsar assert:—

‘I am constant as the northern star,  
Of whose true-fix’d and resting quality  
There is no fellow in the firmament.  
The skies are painted with unnumber’d sparks;  
They are all fire, and every one doth shine;  
But there’s but one in all doth hold his place.’

No wonder, then, that all over the world the Pole-star has been the subject of an attentive consideration, which has frequently passed into the deepest reverence. Nor is the cult of the Pole-star extinct to-day in Euphratean regions. As it remains above ‘high in immortal grandeur,’ so on earth beneath by the banks of the swift Euphratês humble votaries, a strange remnant of the long-vanished past, nightly look up to it with awe and homage. The following is an extract from a singularly interesting article, ‘A Prayer-meeting of the Star-worshippers,’ which appeared in the *Standard*, Oct. 19, 1894:

‘Sook-es-Shookh, on the Euphrates, in the Mesopotamian villayet . . . looks picturesque and peaceful, as we ride into it in the deepening twilight of a late September evening. The stars are beginning to twinkle overhead, but there is still sufficient light to note the strange white-robed figures moving stealthily about in the semi-gloom down by the river side. . . . “Their fathers were burned,” cries our Persian guide in disgust . . . thus delicately hinting that they are not followers of Islam; and a Jew who accompanies our party, on his way to the tomb of Ezekiel, spits upon the ground, and exclaims in pure Hebrew, *Obde kokhabim umazaloth* [‘Servants of the stars and Signs of the Zodiac.’ Vide *sup.* pp. 1, 162]. And the Hebrew is not wrong. The forms gathering by the river side are those of “Star-worshippers,” the last remnant of the famous magi [Cf. Jer. xxxix. 3, where the ‘Rab-mag’ is included amongst ‘the princes of the King of Babel’] of ancient Chaldaea, and their followers, the Babylonian adorers of the host of heaven. To the number of about four thousand they still survive in their native land, principally along the banks of the Euphrates. . . . They call themselves *Mandaya*, Mandaites, possessors of the “word,” the “living word.” . . . Moslems call them *Sabba*, Sabeans. Their dialect is a remanet of the later Babylonian, and resembles closely the idiom of the Palestinian Talmud, and their liturgy is a compound of fragments of the ancient Chaldaean cosmogony with gnostic mysticism influenced by later superstitions.’ The writer then describes how the star-worshippers erect their ‘*Mishkna*’ or ‘tabernacle’ just before the celebration of their grand annual festival. ‘An oblong space is marked out about sixteen feet long and

twelve broad. . . . The side walls run from north to south, and are not more than seven feet high. Two windows, or rather openings for windows, are left east and west, and space for a door is made on the southern side, so that the priest, when entering the edifice, has the North Star, the great object of their adoration, immediately facing him. . . . Towards midnight the star-worshippers, men and women, come slowly down to the *Mishkna* by the river side. . . . By midnight there are some twenty rows of these white-robed figures, ranked in orderly array facing the *Mishkna*, and awaiting the coming of the priests. A couple of *tarmidos*, lamp in hand, guard the entry to the tabernacle, and keep their eyes fixed upon the pointers of the Great Bear. As soon as these attain the position indicating midnight, a signal is given, and a procession of priests, including 'the spiritual head of the sect, the *Ganzivro*,' moves to the *Mishkna*. One 'deacon' 'holds aloft the large wooden tau-cross,' a second bears 'the sacred scriptures of the Star-worshippers,' a third 'carries two live pigeons in a cage,' and a fourth has 'a measure of barley and of sesame seeds.' The ecclesiastics file into the *Mishkna*, and stand 'to right and left, leaving the *Ganzivro* standing alone in the centre, in front of the earthen altar facing the North Star, Polaris. The sacred book *Sidra Rabba* is laid upon the altar folded back where the liturgy of the living is divided from the ritual of the dead. The high priest' takes a live pigeon, 'extends his hands towards the Polar Star, upon which he fixes his eyes, and lets the bird fly, calling aloud, "In the name of the living one, blessed be the primitive light, the ancient light, the Divinity self-created." ' The worshippers without,

on hearing these words, 'rise and prostrate themselves upon the ground towards the North Star, on which they have silently been gazing.' 'The *Ganzivro*, who has made a complete renunciation of the world, and is regarded as one dead and in the realms of the blessed,' after the celebration of a kind of communion in which small cakes, sprinkled with the blood of the second pigeon are partaken of, recites a further service, 'ever directing his prayers towards the North Star, on which the gaze of the worshippers outside continues fixed throughout the whole of the ceremonial observances. This star is called *Olma d'nhoora*, literally "the world of light," the primitive sun of the Star-worshippers' theogony, the paradise of the elect, and the abode of the pious hereafter.' Such is the honour still paid to *Dayan-samê* ('The Judge-of-heaven.' Vide Vol. I. 264) in the land of Sumir and Akkad.

Albîrûnî (*Chronol.* Cap. xviii.) gives an interesting, although somewhat confused, account of the Sabians, who, he says, adopted this name before A.H. 228 (A.D. 850), to save themselves from persecution. 'Before that time they were called heathens, idolaters, and Kharrâmians.' He includes a calendar of their various feasts and celebrations. In his day, as now, their year began in September (*Tishrin*, Heb. *Tisri*, As. *Tisritu*), in which month took place 'the Feast of Tents,' which may have been the ceremony related by the writer in the *Standard*. Other feasts, etc., mentioned are the Feast of Baltî (=Beltu, Beltis); the Feast of Tirrathâ (=Atargatis. Vide Vol. I. 224); the 'Feast of the *Venerable Old Man*, i.e. Saturn'; the 'Feast of Hermes-Mercury'; the 'Feast of the *Living Being* of the Moon'; the 'Feast of the



mysteries of Alsimâk' (= *Spica*); 'the Feast of *Dah-dâk*' (= *Tartâk*, 2 *Kings*, xvii. 31; Bab. *Tartakhu*, vide Vol. I. 35); and the 'commemoration of Tammûzâ (= *Tammuz*) with lamentation and weeping.' It is a truly remarkable fact that what I may call the Euphratean religion has been in existence throughout the entire historical period. It did not die and make no sign; it has continued. And when we return from actual cult to literature, it is quite certain that, *e.g.*, in the *Talmud*, and in many an unedited Gk. and Ar. manuscript, hid away in the recesses of great libraries, lies no small amount of Euphratean lore, stellar and religious. 'I do not doubt,' says Renan (*Nabathæan Agriculture*, 1862, p. 92), 'that an attentive analysis of Greek manuscripts on astrology, on genethliacs, etc. . . . may show this result, that our libraries, in Greek no less than in Arabic manuscripts, contain considerable fragments of Nabathæan [=very late Babylonian] literature.' He further observes :—

'The writings composed in Greek and Arabic on astrology, magic, oneirocriticism, such as the *Cyrnides*, the works of the false Zoroaster, the books attributed to Seth, and to Noah, the fragments of Paxamus, of Teucer the Babylonian, and of Lasbas the Babylonian, are frequently copies or translations of Chaldaean works. The works of the sect known as Mendaïtes, Nazoreans, Christians of St. John, who must be classed generally under the name Sabians, represent to us, to a certain degree, in their method of thought, and possibly in their language, the remains of Babylonian literature' (*Ib.* pp. 3-4). Again :—

'This Teukelûshâ al-Babéli of Arabic and Persian

manuscripts is the *Τεῦκρος Βαβυλώνιος*, called also *Teucer*, *Zeuchrus*, *Zeuchus*, author of *genethliacs*, quoted by Psellus, by Antiochus the Apotelesmatist, and by many others, and of whom extracts exist in our collections of Greek manuscripts' (*Ib.* p. 95).

Of these extracts, one, 'in the grand astrological collection of manuscripts 2420, 2424 of the *Bibliothèque Imperiale*,' is entitled *Τεύχρον Περὶ τῶν παραπτελλόντων* ('Concerning the extra-zodiacal constellations'); and this work is surely well worthy of the attention of some scholar, and would, in all probability, throw much light on many points still obscure.

To give an instance of how Bab. documents explain matters otherwise unintelligible. We find that *Madis* is 'name des Planeten Mars bei den Rabbinen' (Chwolsohn, *Die Ssabier*, ii. 160). In Tab. K. 2310, Rev. l. 13, we read:—

*Kakkab Kha-dis (û) kakkab Ma-dis adannu inna-maru.*

'The star *Gladly* (= *Venus*) (and) the star *Greatly* (= *Mars*) at eventide are seen.'

This passage is also interesting as an extremely early instance of that name-jingle 'in which Orientals, more especially Arabs [and therefore their Semitic kinsmen of the Euphratês Valley,] delight, e.g., *Abil* and *Kabil* for *Cain* and *Abel*' (Sayce, *Herod.* p. 138). We are, of course, at once reminded of the *Κρῶφι* and *Μῶφι* of *Hêrodotos* (ii. 38), with respect to which Prof. Sayce makes the above remark. Sir J. G. Wilkinson, referring to the same passage, says that at the present day Orientals use in joke or in the nursery similar words, 'the second repeating the sound of the first and *always beginning with m*, as "*fersh mersh*," "*salta malta*."' And Canon Rawlinson adds, 'In

*hugger-mugger* and *pell-mell*, we keep to the Oriental usage and employ the *m'* (*Hist. of Herod.* ii. 31).

To return to the Pole-star. Although its steadfastness would naturally excite wonder and admiration, yet prolonged observation necessarily revealed the fact that even *Polaris*, like everything else, after a certain season abdicated its throne and moved on. The reader is doubtless aware that the attraction of sun and moon on the equatorial protuberance of the earth, produces a certain rolling of our planet on its axis, with the result that from time to time the axis of the equator changes 'its position with respect to the axis of the ecliptic, which remains immovable. And the ends of these axes, or the points they occupy among the stars, called their poles, will change in the same way; the pole of the equator, round which the heavens appear to move, describing a curve about the pole of the ecliptic; and since the ecliptic and equator are always nearly at the same angle, this curve will be very nearly a circle' (Blake, *Astronomical Myths*, p. 99). Hence the Pole-star is that (prominent) star which from time to time is nearest to the pole of the equator, which latter makes a single revolution of its circle in 25,870 years. The brightest star of this polar circle is *Vega*, which was fairly near the pole about B.C. 12,000.  *$\alpha$  Draconis* was an excellent Pole-star for some 500 years after B.C. 3000. It in turn was superseded by  *$\beta$  Ursae Min.*, which, as noticed (Vol. I. 357), is consequently still called *Kochab* ('The Star'). Our present Pole-star ( *$\alpha$  Ursae Min.*) is an excellent representative, and by A.D. 2000 will be in almost perfect position. In a consideration of the Euphratean Pole-star of an early period it is very necessary to bear these really simple astronomical

facts in mind; and before going further we notice that the Pole-star B.C. 3500-2000 was a *Draconis*, situate just between the two *Chariots* (*Bears*).

Amongst other treatises contained in the Bab. libraries was one upon *Ilu Tiranna* ('the god *Judge-of-heaven*') 'which in the midst is bound' (*W. A. I.* III. lii. 58). The Ak. *tir* probably=the Turko-Tat. *tir*, 'support,' 'prop.' As noticed (*Vol. I.* 285), *Arcturus* and *Spica* have each been called *Al-Simâk* ('the Prop'); and the Pole-star is *par excellence* 'the Prop' of heaven, and like Atlas, Mithra and Shù (*Vide Ib.*), upholds the columns of the heavenly house. The name appears in Sem. as *Dayan-samê* ('Judge-of-heaven'), and we may notice that Sem. renderings of the Sum.-Ak. are frequently not exact translations, but equivalents. In *W. A. I.* III. lxiv. Rev. l. 1 a similar reference is made to *Tiranna*, and in l. 4 the obtaining of corn and barley is in some way connected with it, and its disappearance is noted. In *Ib.* liii. No. 1, l. 7, it is connected with rain. In *Ib.* II. xlvii. 37 *Dil-uri* ('The Proclaimer-of-light') is explained as *Dayan-samê*, and in l. 38 *Azâg-a* is similarly explained. And this last title brings us to an interesting passage in *W. A. I.* IV. xxviii. (Pl. ii.), 12 where mention is made of 'the god [or goddess, probably both,] *Azâga-siqqa*, the mighty goat of Mul-lil.' The Ak. *azâga*=Sem. *êllu* ('high'); and if we read the latter part of the name *sug-ga* (=Sem. *rûkûtu*, 'distant'), the meaning will be 'the Distant-high-one.' But, although *Polaris* is pre-eminently 'the High-one,' the epithet 'distant' does not appear to possess any special suitability; and, on the whole, I decidedly prefer to read *Siqqa* ('the Horned-one'), Sem. *Atûdu* ('He-goat'). In *W. A. I.* III. lxviii. 12

*Azâga-siqqa* is styled 'the supreme [= 'highest'] *Siq* of Mul-lil-la' ('the Lord-of-the-Ghost-world'). Prof. Sayce appears to render *siq* by 'milch-kid' (*Rel. Anct. Babs.* p. 286, n. 2), and in his Syllabary (No. 313) it is equated with *banu* ('old-gazelle.'). Muss-Arnolt (*As. Dict.* p. 177) gives 'banû, probably an epithet of a wild animal=shining, brilliant of color.' The *Siq-makh*, therefore, appears to combine the ideas of 'goat' and 'bright.' *Azâga-siqqa* ('the High-and-Horned-one') is the *Uz-makh* ('Mighty-goat') of Mul-lil, the Elder Bêl, Lord of the world of night and darkness. We have seen the extraordinary mythological prominence of the Goat, and its connexion with the Sun, *Capricorn* and *Capella* (Vide Vol. I. 80-1; 130-1; 218 *et seq.*); and here we find *Polaris* itself impersonated as a bright Goat, the highest of the flock of the Lord of night. We may further identify it with 'the god *Azâg-gi-tur-da*' ('the Lusty-goat') named in *W. A. I.* II. lviii. 66. In *K.* 11,153 + *Rm.* 582, l. 13, we are told that Nirgal, who was originally 'the god whom his primitive worshippers at Gudua [Sem. Kâtû, Cûtha] made king of *ardli* or Hades' (Sayce, *Rel. Anct. Babs.* p. 195), 'cares for the whole of the *Tul* [*Du.* Jensen. *Kirrud.* King.]-*Azâga*.' Mr. King (*Bab. Mag.* p. 111) refers to Jensen's elaborate remarks on 'Die Schicksalskammer im Versammlungsraum' in this connexion, and to his explanation of 'Duazaga' as 'the lordly chamber' of 'the Lower World' (Vide *Kosmol.* p. 234 *et seq.*). But, really, the matter is much simpler, *i.e.*, the Hadês-and-Night-god cares for the whole of the 'hill' (Ak. *tul*, *dul*, *tîl*, Sem. *tîlu*, *sadû*) of the Pole-star (*Azâga*), who is seated in majesty on the summit of the northern heights. At night Mul-lil is lord of this

starry hill; it is crowned by his own bright Goat, and, below this, his deputy *Mulmosarra* (Vide Vol. I. 267) bears sway over the powers of darkness.

The Pole-star was also called *Dugga* (otherwise read *Kaga*)-*gilgatil* (Vide *W. A. I.* II. lviii. 17; Sayce, in *Trans. S. B. A.* iii. 206; Brünnow, *Class. List*, p. 40). *Dugga*=the Sem. *Saqû* ('High') and is probably connected with the Turko-Tat. root *toq*, *tog*, 'to rise up,' 'come to the top,' etc., whence words meaning 'high,' 'hill,' etc. The primary meaning of *gil*, as is also shown by the form of the cuneiform ideograph, is 'an enclosure.' *Til* means 'life.' *Duggagilgatil*=The High-one-of-the-Enclosure-of-life, and there is much reason to believe that 'the Enclosure-of-life,' of which the Pole-star was lord, is the famous 'Oblong' formed by the stars  $\beta$ ,  $\gamma$ ,  $\eta$  and  $\zeta$  of the *Little Bear*. This particular Oblong, and the connexion between Oblongs and the 'Quarters' or 'Divisions' (*Regiones*) of the heavens, have been already referred to (Vide Vol. I. 25); and, as has been noticed (*Sup.* p. 177), the modern votaries of *Polaris* mark out an 'oblong space,' the side walls of which 'run from north to south,' so that it fronts the Pole-star in the same manner as the celestial oblong of *Ursae Min.* fronts the star  $\alpha$  *Draconis*. Here, as so frequently, terrestrial ritual is based upon, and is a 'pattern' of 'things in the heavens.' It is natural to suppose that there is some special place in the universe which is in an occult and peculiar manner the abode of the essence and spirit of life; and it is equally natural to locate this spot in the heights of the north, ever crowned by the unsinking stars.

The god *Tiranna* was also specially connected with the city of Uruk (=Erech. Vide *W. A. I.* II. l. 54;

V. xli. 16), the earliest name of which was (Ak.) Unu-ki ('The Place-of-the-Settlement'), and whose patron-divinity was the sky-god Ana (=Sem. Anu). It was natural that the highest of the stars should be the patron-star of the city of the Sky-god. Each of the ancient cities of Babylônia had its patron-star, as well as its patron-god. *Polaris* stands in the same ritual position to Erech, as *Dilgan* to Babylôn and *Margidda* to Mul-lil-ki (=Nippur, Niffer). Tab. K. 12,462 contains observations on *Tiranna*, called as usual 'the god,' not 'the star'; and K. 9250 contains ceremonies to be performed by sick persons, and connected with the cult of certain divinities, including *Tiranna* and *Damu* (=Spica. Vide sup. p. 84). We noticed that the Sabians observed the 'Feast of the mysteries of' (*Spica*. Sup. p. 180). In K. 9417 a list is given of various divinities and divine pairs, male and female, 'representing emanations of the male and female principles of nature.' Amongst them are the *Mul-tul-Azâga* ('Lord-of-the-hill-of-the-High-one'), and the *Nin-tul-Azâga* ('Lady-of-the-hill-of-the-High-one'). *Azâg* ('High') is connected with the Turko-Tatar root *ös, üs, üz* ('above,' 'upper side,' 'high,' etc.), whence such words as Uigur *usaq* ('high'), etc. Such was the position of the Pole-star, guarded by the two fiery *Chariots* of the *Bears*, and presiding over the highest and most sacred source of life.

In the list of gods in *W. A. I.* II. lviii. No. 1 next to *Duggagilgatil* comes the god *Esbar-anki* ('Crown-of-heaven'), the Sem. equivalent of whose name is *Dayan-sisa* ('the Directing-judge'); and next to him is the god *Giszalibri-giski* ('Temple-of-the-four-in-the-place-of-the-height-of-heaven'), explained in the Sem. as *Lib uzzû mâti* ('the Place of the Crown of

the land'). In *Esbar-anki* we shall have no difficulty in recognising  $\beta$  *Ursae Min.* (Vide *sup.* p. 182); and in 'the Place of the Crown of the land,' 'the Temple of Four,' we find the *Gilgatil* ('Enclosure-of-life'), the Oblong formed by  $\beta$ ,  $\gamma$ ,  $\eta$  and  $\zeta$  *Ursae Min.* It is by no means improbable that the six names of the 'divine Judges of the Temple of Assur' mentioned in *W. A. I.* III. lxvi. E. 1-9, represent the six remaining principal stars of *Ursae Min.*, and that these, with *Esbar-anki*, make up seven Great-ones (*Kabîrîm*. Vide Vol. I. 169), *Polaris* being the Eighth. Assur= (in origin) An-sar ('the Heaven-god Sar'), the analogue of the Aryan Varuna-Ouranos. His temple is the celestial vault, and these stars, as the 'Judges' of it, occupy the highest seats. It will be remembered that we have already met with four Kabeiric titles as names of Euphratean stars (Vide Vol. I. 356); and Movers, from the evidence at his disposal, has already connected Eschmûn and the *Kabîrîm* with *Polaris* and the stars of *Ursa Min.* (Vide *Die Phönizier*, 1841; Vol. i. 531). Upon this Bunsen remarks, 'Movers' explanation of them [the *Kabîrîm*] as the *Ursa Minor* can only be true in a later astral sense' (*Egypt's Place*, iv. 256). I do not suggest that this view is an exhaustive explanation of the *Kabîrîm*. It merely presents them in a stellar reduplication.

The Ak. *Esbar-anki*=Sem. *Uzzu*<sup>1</sup>-*samê* ('Crown-

<sup>1</sup> I am not sure what was the Construct state of *uzzu*, whether *uzzu* (Cf. *uznu*, constr. *uzun*) or *uzz*. A reviewer, not a 'critic,' of Vol. I. asserts that I am unaware there is such a thing as the construct state, although such a form as *kakkab* continually occurs in my work. The construct state is by no means always used in Bab.-As. The same reviewer also asserted that I was ignorant of the meaning of *ki* in *Barsip-ki*. *Ki*, an Ak. affix denoting 'place,' is one of the first things learnt by beginners, with the other affixes



of-heaven'). The scribes were distinctly partial to play on words, an instance of which is afforded by the Ak. *Uz* ('Goat'), and the Sem. *Uzzu* ('Glory,' whence the meaning 'Crown.' Vide Sayce, *Rel. Anct. Babs.* p. 285). We have seen the Pole-star described as a 'Goat' (*Sup.* p. 184), and  $\beta$  *Ursae Min.* also, as *Uz-samê*, becomes a 'Goat of heaven.' The first of the other six 'divine Judges' above referred to is (Ak.) *Samelâ*, (Sem.), *Lû-kul-lali* ('the Wild-heifer, voice of abundance'). Taking the stars in order, *Samelâ*, (=Gk.  $\Sigma\epsilon\mu\acute{\epsilon}\lambda\eta$ . Vide R. B. Jr., *Sem.* 132-6)= $\gamma$  *Ursae Min.* As Prof. Sayce has observed, the 'Goat with six heads' is referred to in *W. A. I.* IV. xxx. 11; and this mythical animal would be best explained by a stellar connexion, such as that between the *Goat-of-heaven* and his six companion-stars. *Esbar-anki* and *Samelâ*, as goat and heifer, reappear in the Arabian Sphere as *El-ferkadân* (=  $\beta$  and  $\gamma$  *Ursae Min.*), which Ideler renders 'die beiden Kälber.' The present Pole-star ( $\alpha$  *Ursae Min.*) was, of course, another of the same flock, as is illustrated by its Arabic name *Al-Jedy* ('the Kid'); whilst another of its names *Al-Rakûbat* ('the Chariot'), Heb. *Rekhev*, Bab.-As. *Rukûbu*, illustrates the fact that the *Little Bear* was regarded as the *Little Chariot* (Vide Vol. I.

and prefixes. The reviewer subsequently withdrew this baseless statement, but atoned for his burst of candour by asserting (somewhat indirectly) that I was ignorant of every As. grammar except that published some years ago by Prof. Sayce. The reader will not be surprised to learn that the Editor of the review in question declined to insert a letter in which I exposed the ignorance and shortcomings of his scribe. It would show a lack of chivalry not to throw the editorial aegis over a stupid and prejudiced reviewer, too lazy to study what was before him, and too ignorant to know how to construe a written document.

269). *Al-Rakûbat*—the *Alrucaba* of the *Alphon-sine Tables* (Vide Vol. I. 20, 284).

The name *Azâga* or *Azâgga* is also found in a corresponding terrestrial connexion. The *Du-azâgga* ('Holy-mound') of Bâbilu was the *Ê-Saggil* ('House-of-the-lofty-head') or great temple of Bêl-Merôdakh, the successor and, in some sort, reduplication of the ancient god Mul-lil. 'It is probable,' says Prof. Sayce, 'that the mounds now called Babil by the Arabs mark where it stood' (*Higher Crit. and Mons.* p. 154). The shrine of the temple possessed a copy in miniature of the *Du-azâgga* itself; and it seems, on the whole, sufficiently probable that the temple and its arrangements were intended to be a pattern of 'things in the heavens,' and that, to the initiated votary, it occultly typified the Holy Hill of heaven 'in the sides of the north' (Is. xiv. 13).

In *W. A. I.* III. liii. No. 1, l. 15, the *kakkab An-ta-sur-ra* is mentioned, which Jensen (*Kosmol.* p. 158) takes to be a meteor; but to this I cannot agree. In *K.* 11,283, four lines only of which are before me, certain stars are named in the first column, and in the second the planets with which they are specially connected, thus:—

<i>K. Zibânîtum</i> (=the <i>Claws</i> ).	<i>I. Samas</i> ('the Sun').
<i>K. Antasurra.</i>	<i>I. Samas.</i>
<i>K. Dilbat.</i>	<i>I. Istar</i> (= <i>Venus</i> ).
<i>K. Anunîtum</i> (Vide <i>sup.</i> p. 169).	<i>I. Istar.</i>

There is nothing in either of these passages to suggest that *Antasurra* is not an ordinary 'star.' Samas is the presiding divinity of the month of the *Claws*. *Dilbat* is the ordinary name of *Istar-Venus*. Anunit is another of her names, and, as we have seen,

*Anunîtum* is also the asterism  $\lambda, \mu$  *Sag.* *Antasurra* is not a planet, for the names of the planets also occur in liii. No. 1. Turning to etymology we find (Ak.) *Antasurra* rendered (Sem.) *Tsuppuru sa libi* (Brünnnow, *Class. List*, p. 30). The Sem. root *tspr* means 'to go in a circle,' 'revolve,' 'dance in a circle,' 'leap,' hence Heb. *tsophâr* ('a he-goat'), primarily 'a leaper.' We, therefore, observe that the Sem. title of the Ak. *Antasurra* is 'the Circler of the Midst,' whilst the ideas of 'goat,' an animal so much connected with the Pole-star and his companions, and of the eternal stellar dance (Vide Vol. I. 123, 133) are also both included. *Anta*=Sem. *Êlû* ('High.' Vide Brünnnow, *ut sup.*), whilst *surra*=words meaning 'rising,' 'shining brightly' (*Ib.* p. 141; Sayce, *Syl.* No. 99). Hence, *Antasurra*= 'The High-in-rising.' Let us note in passing that, as so frequently, the Sem. rendering is an equivalent, not a translation of the Sum.-Ak. name. Now the *High-in-rising*, who is also the *Circler-round-the-midst*, can really hardly be anything but *Ursa Min.*, which may be specially connected with the Sun as a special ruler (of the night); and, in exact accordance with this view, is the rather curious passage in *Arâtos* :—

'The head of *Kynosure* runs very high  
When night begins' (*H.D.* 308-9).

As Prof. Sayce also gives *nas* as a value of the form which generally=*ta*, I suggested (*E. S. R.* iii. 9) that ANN-ASS-U-RA=(Gk.) *K-vv-óσ-ov-pa*, the ordinary name of the *Arktos Oligé*, and which a popular etymology understood as 'Dog's Tail.' There is nothing at all improbable in the word *Kynosoura* (whence our 'cynosure'=centre of attraction), like various other

names in Gk. astronomy etc., having been derived from a Euphratean original.<sup>1</sup> The prefixing of a consonant not in the original is by no means unusual in Gk. transcriptions. Thus the Sem. *yâêl*=Gk. *Δίαλ* (*Hêsych.* in voc.), *Ati*=*Γάτις* (*Antipatros* of *Tarsos*), etc. But, be this as it may, we can, I think, safely say that *Antasurra*=*Ursa Min.*, which, at this period, did not contain the Pole-star, but slowly circled round 'the Midst,' that central point of the heavens where *Polaris* sat enthroned.

The night-revels of the mediaeval Witches' Sabbath, where the demoniac and Satanic Goat is high enthroned, are probably not unconnected in origin with some distorted remembrances of the dancing Goat-stars, Satyrs (Cf. *Is.* xiii. 21), of primitive Euphratean times.

#### SECTION V.—THE TABLET *W. A. I.* III. LVII. No. 5.

This Tablet, which has already been referred to (*Vol. I.* 78, 110), is of special interest, inasmuch as it shows very clearly the absolute identity of an important part of the Bab. Sphere with our own. Line 1 mentions *Gud-êlim* (= *Kentauros*. Vide *Ib.* 110-11; 213-4), and the following stars in this constellation are also named, (1) *Su-zak-Gud-êlim* ('the *Right-hand-of-the-Centaur*'= $\kappa$  and  $\sigma$  *Centauri*), (2) *Su-gub-Gud-êlim* ('the *Left-hand-of-the-Centaur*'= $\eta$  *Centauri*), and (3) *Ner-gub-Gud-êlim* ('the *Left-foot of the Centaur*'= $\alpha$  and  $\beta$  *Centauri*). Most of the lines are mutilated and contain little except the names of stars, but these star-names show conclusively

<sup>1</sup> As to 'the false etymology' of *Kynosoura*, vide *Emile Burnouf, La Légende Athénienne*, p. 111; Sir G. W. Cox, *Introd. to Myth. and Folklore*, p. 40.

that the *Centaur* of the Bab. Sphere, however much he may have varied from the ordinary Classical type (and on this point I have already spoken), was one and the same concept with the *Centaur* of our modern sphere, a compound creature in form part man, part animal. A full account of *Gud-êlim* would doubtless have spoken of the stars of his hind feet which now constitute the brilliant *Crux*. According to the representations I have given, both hands of the *Centaur* grasped the *Wild-beast* (Vide Fig. xv. p. 241). According to the Farnese Globe, he holds it up with his left hand, and Ptolemy's list agrees with this (Vide Vol. I. 111). Arâtos says :—

‘ But his right hand he ever seems to stretch  
Before the *Altar's* circle. The hand grasps  
Another creature, very firmly clutched,—  
The *Wild-beast* ; so the men of old it named ’

(H. D. 429-42).

Thus, on the globe which was before Arâtos, the *Centaur* held up the *Wild-beast* (= *Ligbat*. *Sup.* p. 5) with his right hand. There is a very curious agreement between the Tablet and Ptolemy's List on a singular point. In l. 8 we read :—

*Kakkab Ner-gub Gud-êlim, qarnu-su yubbal.*

‘ The star *Left-foot* of the *Centaur*, its horn disappears.’

It would almost seem from this that *Nergub* was not a single star, but an asterism composed of several stars, more or less in a line, and which therefore made a sort of horn (point). In Ptolemy's List Star No. 34 (ζ *Centauri*) is described as ‘ the one at the frog ’ of the left foot (Vide Vol. I. 110) ; and a frog is ‘ a sort of tender horn that grows in the middle of the sole of a horse's foot ’ (*Imperial Dict.* in voc.). Now,

for what possible reason should the Classical constellation *Centaurus* be credited with a 'frog' in the left foot? Before the discovery of this cuneiform tablet how hopeless such a question would have been! It would of course have been answered by the arbitrary assertion that this description was a freak of fancy on the part of some one. The real answer is now perfectly simple. The configuration of the stars of the leg and foot suggested to the Bab. observer a 'horn' of light. A horn, in the literal application of the expression to the foot of an actual horse,=a frog. From this, as from so many similar instances, we learn, as a general principle, to exclude arbitrary fancy and invention from such cases; and, secondly, we note with wonder the marvellous closeness of connexion in detail between the Gk. and Bab. Spheres and star-lists.

In l. 9 the scribe passes naturally from one centaur to the other, who is also in the same neighbourhood, and names three of the asterisms of *Sagittarius* (*Udgudûa*. Vide Vol. I. 78-9). The first of these is the *Kakkab Kumaru* ('the Dusky-part'). The meaning of this word, which is Sem. in form, was, so far as I am aware, first given by me in *E. S. R.* (Pt. iv. 11). A careful inspection of *Sagittarius* convinced me that its dusky hinder part was intended. I naturally compared *Kumaru* with the Aramaic *kemer* ('blackness'), whence the name of the *Kemarîm* (Zeph. i. 4), i.e., 'the Black-robed-ones,' 'the idolatrous priests' (A.V. in 2 *Kings*, xxiii. 5). But this does not exhaust the matter, for, as might well be expected, *kumaru* is merely the Sem. form of a Sum.-Ak. loan-word *kumar*, connected with the Turko-Tatar root *kem*, *qum*, an allied variant of which is *tom*, *tum* (Vide Vámbéry, *Etymol.* secs. 97, 179), one of the

root-meanings of this latter form being 'darkness,' 'night,' 'mist.' And the connexion between the forms *qum* and *tum* appears also in the Sum.-Ak., where we find that *tum*=Sem. *khartsu* ('obscurity'). The Ak. *kumar*, therefore, will signify the 'Dark-part' of *Sag.*; and we are also reminded that these Euphratean star-names, or most of them, are Sum.-Ak. in origin, the Altaic word *kumar* having been draped in a Sem. form.

The second of the three asterisms of *Sagittarius* is (Ak.) *Ega* (Sem.) *Agû* ('the Crown') or *Uzzu* ('Glory'), the bright upper forepart of the *Archer* (= *Papilsak*. Vide *sup.* p. 174); and the third is *Kakkab Su-gub* ('the Star of the *Left-hand*')= $\gamma$  and  $\delta$  *Sag.* (Vide Vol. I. 77-9). Apart, then, from Euphratean representations of the *Archer* in art (Vide *sup.* p. 44; *inf.* Fig. xii. p. 235), it practically follows from such a description that the Euphratean *Sagittarius* was identical with the Gk. *Toxotês*; and, as we know that he came between the Bab. *Scorpion* and the Bab. *Goat-fish*, we also know that he was in the same celestial locality as *Toxotês*. Even if we possessed no other knowledge of the Euphratean Sphere than that it contained *Sagittarius* and *Centaurus*, we should certainly be justified in assuming that it also contained various other constellation-figures of the Gk. Sphere. In l. 11 a further star of *Sag.* is mentioned, the *kakkab Ur-ner-gub Ud-gu-dû-a* ('*Sole-of-the-Left-foot* of *Sag.*'),= $\beta^1$  and  $\beta^2$  *Sag.* The Tablet continues :—

10. *Kakkab Za-ma-ma, irbitti kakkabâni*  
 'The constellation the *Living-eye*, four stars  
*nas-û*; *kakkab Ner-(khi-bi)*.  
 rise; the star *Foot-(wanting)*.'

13. *Kakkab Uz, kakkab Ner-zak*

'The star the *Goat*, the star *Right-foot* of the *Za-ma-ma va kakkab Id-khu salastu kakkabâni* *Living-eye* and the star the *Eagle*, three stars (*khi-bi*).

(wanting).'

14. *Sittâ birâtu: kakkab Id-khu rabû*

'Two conjunctions: the star the great *Eagle* (is) *sumuq-samê*.

at the zenith' (lit. 'height of heaven').

The Tablet, now unfortunately mutilated, gave an account of the constellation *Zamama* (Vide Vol. I. 45) in its four divisions. In *W. A. I.* II. lvii. Rev. A. l. 53 we read:—

*Kakkab Id-khu, ilu Za-ma-ma | ilu Nin-ip.*

'The constellation the *Eagle* (= *Aquila*), the god *Zamama*,=the god *Ninip*' (=Bêr. Vide Vol. I. 357).

As already noticed, in the Euphratean Sphere the name *Eagle* was applied alike to the constellation (*Aetos*) and to its principal star (*Altair*); a nomenclature faithfully reproduced in the Hipparcho-Ptolemy Star-list, where the constellation is styled 'Ἀετὸς ἀστέρισμος, and the principal star in it ὁ λαμπρὸς καλούμενος Ἀετὸς. We learn here that the constellation *Aquila* is the star-god *Zamama*, *ilu Zamama sa Kisû* (*W. A. I.* II. lxi. 52. 'The god *Zamama* of *Kisû*'), 'a great town in Babylonia, now represented by the mounds of Hymer' (Geo. Smith, in *Trans. S. B. A.* iii. 364). Next, as to the meaning of the name '*Zamama*,' otherwise '*Zagaga*.' The ordinary meaning of the Ak. *za* is '4,' but, as I have elsewhere shown (Vide *Proceedings S. B. A.* Feb. 1888), the Ugro-Altaic '4'-word is an 'eye'-word, and the line



of idea which arrives at '4' is represented by (Hand + hand + eye +) eye. The following list of Ugro-Altaic '4'-words (Vide R. B. Jr., *The Etruscan Numerals*, p. 20) will make this evident:—

Akkadian.—	<i>s-a-b-a</i>	
	<i>s-a-v</i>	
	<i>s-a-n-a</i>	
	<i>s-a-n</i>	Cf. Ostiak <i>sem</i> , 'eye.'
	<i>s-a</i>	Cf. Samoied <i>sai</i> , 'eye.'
	<i>z-a</i>	
	<i>s-i-v</i>	Cf. Akkadian <i>si</i> , 'eye.'
	<i>s-i-m-u</i>	Cf. Zyrianian <i>sin</i> , 'eye,' Tcheremiss <i>sinza</i> .
Etruscan.—	<i>s-a.</i>	Cf. Jurak Samoied <i>sæu</i> , 'eye.'
Yenissei.—	<i>s-a</i> (-gem)	Cf. Lapponic <i>sa-lbme</i> , 'eye.'
	<i>s-e</i> (-ga)	
	<i>s-i</i> (-em)	Cf. Finnic <i>si-l-ma</i> , 'eye.'
	<i>s-i</i> (-a)	Cf. Kamassin <i>sima</i> , 'eye.'
	<i>tsch-a</i> (-ja)	Cf. Ostiak Samoied <i>saiji</i> , 'eye.'
Kamacintzi.—	<i>sch-a</i> (-gae)	
Arintzi.—	<i>sch-e</i> (-ya)	
Mantchu.—	<i>ss-i</i> (-ggæ)	
Chinese.—	<i>sz-e</i>	Cf. Magyar <i>szem</i> , 'eye.'
Siamese.—	<i>s-i</i>	Cf. Yenissei-Samoied <i>sei</i> , 'eye.'

We may therefore regard *za* in this archaic divinity-name as meaning 'eye.' *Ma-ma* is an abraded form of *mal-ma*, *mal-mal* (Cf. Lenormant, *Étude*, p. 23); and the Ak. *mal*=Sem. *sakānu* ('to be established') and *bītu* ('house'), i.e., that which is established. *E.g.* 'by understanding is an house established' (*Prov.* xxiv. 3). *M* and *v* are interchangeable in Ak., and the Ak. *mal*, *val*=the Turko-Tatar *var*, *bar* ('to be,' 'to exist'); *e.g.*, Tchagatai *bar*, Osmanli *var* ('it is'), Tshuwash *par* ('to be,' 'to exist'), etc. *Mal* is, therefore, 'to be,' 'to exist'; and, hence, 'to be established'; and, as the Altaic *par*= 'to be,' 'existence,'

so will *mal*='existence,' 'the existing,' doubled in this name by way of intensity, after an archaic fashion. *Za-mama* thus='Eye' + 'existing'='the Living-eye.'

We are further informed, as above, that the star-god Zamama is, or is specially connected with, the god Ninip, a solar divinity, described in one passage as 'the meridian sun' (*W. A. I.* II. lvii. 51), and whose wife is 'the Lady of the Dawn' (*Ib.* II. lix. 10). Try as we may it is impossible in Babylônia, India or elsewhere to get rid of the Natural Phenomena Theory. Here, as everywhere, we find the Sun and his bride the Dawn; and the Sun himself is, as of course, the original 'Existing-eye.' Hence, the connexion between Ninip and Zamama, in whom Ninip is reduplicated in a stellar phase. The bright-eyed solar Eagle of day reappears in a secondary phase as the bright-eyed stellar Eagle of night. And a further solar trait in Zamama appears from his position as patron-divinity of the town of Kis, a name akin to the Turko-Tatar root *qis*, *qiz* ('fire,' 'warmth,' 'redness,' 'to glow'), whence the Uigur *qis* ('fiery'), and numerous similar words in the various connected dialects, with meanings such as 'gold,' 'red,' etc. *Kis*, Sem. *Kisu*, is, then, the 'Fire-town,' a centre of a solar cult; and *Idkhu-Aquila* was its patron star (Cf. p. 186).

Such, then, is the Eagle Zamama, and the connexion of the name with '4' is further shown by the division of the constellation into '4 stars' or asterisms, namely, (1) the *Right-foot* (*Nerzak*) of Zamama (= *Aquilae*); (2) *Idkhu* (= *Altair*, a *Aquilae*); (3) the *Left-foot* (\**Nergub*) of Zamama, which is not mentioned in the Tablet, as it stands, but the exist-

ence of which is implied by No. 1, and which must= $\delta$  *Aquilae*; and (4) the *Head* of Zamama. This asterism, which would= $\epsilon$  and  $\zeta$  *Aquilae*, does not appear in the Tablet, as it exists, but is necessitated by the formation of the constellation-figure, which was different from that of *Aetos* in the Hipparcho-

Ptolemy List. The annexed illustration shows the *Eagle*, drawn, like many of the birds represented on the monuments, in a conventional way, as it appears on the Stone represented in *W. A. I.* III. xlv. No. 1 (Vide *sup.* p. 34), and also shows how the figure was adapted to the actual stellar arrangement. Here, as in the great majority of instances, the constellation-former did not begin by imagining that the stars of *Aquila* resembled an eagle; but, having the

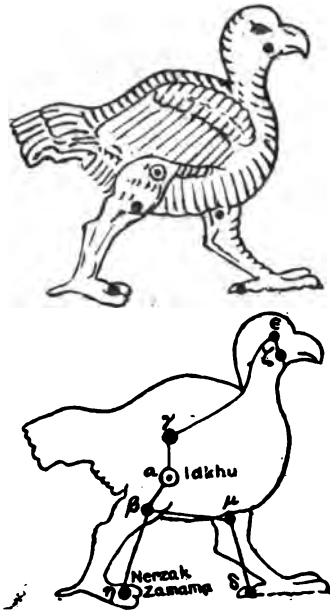


FIG. III.—IDKHU-AQUILA.

idea of an eagle already in his mind, he adapted the stars to such a form, making a suitable star its right foot, another its left foot, and thus on. As we have seen (Vol. I. 81), the star of the *Goat* (*Uz*), which is naturally mentioned in connexion with the *Aquila*-stars, is 'the top of the head of the constellation of the *Goat-fish*,'= $a^1$  and  $a^2$  *Capricorni*.

In l. 14 we read of 'two conjunctions.' The term 'conjunction' is not here used in the ordinary astro-

nomical sense of 'the meeting of two or more stars or planets in the same degree of the Zodiac'; but is applied to two stars or constellations rising about the same time and about the same longitude. So we read in Arâtos:—

'When the *Goat* (*Capricorn*) rises . . . others mount,  
The feathered *Arrow's* stars, the *Eagle, Bird*' (*H. D.* 689-91).

The As. *birîtu*, Heb. *berîth* ('covenant'), is said to be so called from 'the idea of cutting' (victims on the making of agreements); and the line of thought connected with this use of the word is:—Cutting—sacrifice—covenant—(astronomically) conjunction. This is equally illustrated by the Ak. term of which *birit* is the Sem. rendering. The passage in Ak. reads:—*Kas sa-ba-an-na sa-ba-an-na* ('Two covenants [*i.e.* conjunctions] of heaven'). The word is repeated with a dual significance. I read *sa-ba* (not *ri-ba*), because the word is evidently connected with the Ak. *sab*, *sap* ('to sacrifice'), the Turkic *sefa* ('agreement'), and the whole class of words belonging to the Turko-Tatar root *sap*, *sab* ('to hew,' 'cut'), *e.g.*, the Altaic *saba* ('cut.' Vide Vámbéry, *Etymol.* p. 142). Both the Semitic and Turanian words, therefore, proceed upon the same line of thought.

Lastly, the culmination of *Idkhu*, the special *Eagle*-star, is mentioned. Thus Ninip, the zenith *Eagle*-sun of day, is reduplicated in *Idkhu*, as a zenith star of night. As noticed (*Vol. I.* 292) the zenith was called (Ak.) *an-va* ('divine place'), Bab. *nalbar*- or *nalbas samê* (*Cf. W. A. I.* III. lxiv. Ob. l. 24). The 'star *Nalbas-samê*' is mentioned in *K.* 6324, and was, I presume, one which prominently occupied the zenith at certain periods, *e.g.*, *Vega*, 'the zenith-queen of the heavenly *Lyre*.'

Line 15, which is unfortunately mutilated, names the stars *Ka-lik-ku*, *Uz* (Vide *sup.* p. 198) and *Sak-sa-di*. According to *W. A. I.* II. xlii. 69, *Kalikku* is to be read (Sem.) *Lisân-Kalbi* ('the Tongue of the Dog,' Vide Vol. I. 356; Brünnow, *Class. List*, p. 43), by which it is impossible not to understand *Sirius*, the star 'in the mouth' (Vide Vol. I. 98) of *Canis Maj.* In Cicero's *Arâtos* *Sirius* is represented as lying on the end of the *Dog's* tongue (Vide R. B. Jr., *H. D.* Fig. xxxii). It is certainly singular that *Sirius* should be mentioned in this connexion, but the lines are too much mutilated for us to be able to understand their purport; and the *Kakkab Ka-lik* . . . is also named in l. 17.

*Saksadi* ('Bright-horn-of-slaughter'), for which I find no Sem. equivalent, is a very interesting star-name, and= $\beta$  *Capricorni*. The two stars *Uz* and *Saksadi*, which form the xxiind Arabian Lunar Mansion, are called (Ar.) *Sa'd-al-Dsabih* ('The-lucky-asterism-of-the-Slaughterer'), in which appellation we find the influence of the original Ak. name. Smyth observes that *Capricorn* 'was mightily looked to by the Arabians . . . the xxiind Lunar Mansion was a popular one; and Kazwîní, Tiziní, Ferghání, and Fírúzábádí of Khorasan, author of the *Kámús*, i.e., Ocean, the most famous of all Arabic Lexicons, mention its happy tendency' (*Cycle of Celest. Objects*, ii. 473). Now, the real original reason of the importance ascribed to *Capricorn*, and the origin of the name *Saksadi*, are to be found in the preconstellational character of the *Goat-fish*. It is the Goat-sun, the solar god *Uz* (Vide Vol. I. 80), with his bright horn (ray) of slaughter for darkness, night and stars, who is the original auspicious figure. His good luck and

well-omened character are handed on to his astral representative and reduplication, the Star-goat *Capricorn*, the lucky Sign under which Augustus, most fortunate of men, was born.

In l. 2 all is broken away except *Kakkabāni Gu-si-sa* ('the stars of the *Directing-urn*'), and the same phrase appeared in l. 18, of which nothing remains but *Gu-si* . . . The reference is to the *Urn* of *Aquarius* (Vide *sup.* p. 16), which, in the Lunar Zodiac (Vide *sup.* p. 67), stood at the head of the asterisms.

This Tablet, therefore, furnishes us with most important references to *Centaurus*, *Sagittarius*, *Capricorn*, *Aquarius*, *Aquila* and *Sirius*, all of which we find described much as on our present sphere. The Tablet is an old one, as appears, amongst other circumstances, by the fact that, in Assyrian times, it had already been mutilated; for a scribe has added *khibi* ('wanting'), to show that in his day a portion of the original had perished. But, as of course, a comparatively quite modern tablet may bear an exceedingly ancient inscription, a simple truth sometimes lost sight of by critics.

#### SECTION VI.—THE OBLIQUITY OF THE ECLIPTIC.

In Tab. K. 2894, Rev. l. 18 we read:—

*Irbayd kas-bu sikhkhi-rat samsi: sus kas-bu sikhkhi-rat.* . . .

'Forty degrees—the circuit of the sun: sixty degrees—the circuit. . . .'

'The *Kasbu*' (Vide Vol. I. 325), says Prof. Sayce, 'was divided into 60 degrees' (*Trans. S. B. A.* iii. 238), and 'sixty was the unexpressed denominator of a fraction' (*Herod.* p. 403); and this passage, perhaps

a gloss, contains a difficult and important statement, the explanation of which is, I think, as follows:— $\frac{40}{80}$  ( $=\frac{2}{4}$ ) of  $60^\circ=40^\circ$ ='the circuit of the sun.' It is clear that *kasbu* must not be understood here in the sense of 'double hour'; for forty hours  $\times 2=80$  hours, is not in any way connected with 'the circuit of the sun.' This 'circuit' can hardly refer to anything other than the sum of the degrees of the greatest declinations from the celestial equator of the sun during its annual revolution, i.e.,  $23\frac{1}{2}^\circ$  N. and S. at the Tropics of *Cancer* and *Capricorn* respectively,  $=47^\circ$ , not  $40^\circ$ , as estimated by the scribe. And this view is strengthened by the latter part of the line, which doubtless read:—' $60^\circ$ =the circuit of the moon.' That is,  $\frac{60}{60}=1$  (*kasbu*)= $60^\circ$ . Now the actual sum of the moon's greatest declinations is  $(23\frac{1}{2}^\circ+5^\circ)+(23\frac{1}{2}^\circ+5^\circ)=57^\circ$ , which is very near the round number of  $60^\circ$  given by the scribe. He evidently gives  $20^\circ$  as a round number for the solar tropic, and  $30^\circ$  as a round number for the lunar tropic, instead of  $23\frac{1}{2}^\circ$  and  $28\frac{1}{2}^\circ$  respectively. From these statements it follows, therefore, that the scribe was perfectly well acquainted with the obliquity of the ecliptic (Vide Vol. I. pp. 124, 133).

Mr. Pinches has suggested to me that possibly the reading of the word above rendered *sikhkhirat*, may be *gir-rat* ('progress,' 'advance'), from *garâru* ('to advance'). Such a rendering would also be quite in accordance with the explanation above given, and would refer to the extreme N. and S. 'progress' or 'advance' of sun and moon.

## SECTION VII.—THE SEVEN RIVERS.

The sacred number 7 (Ak. *Îmina*, Bab. *Siba*) which, amongst other things, symbolizes Râbilu (Vide Brünnow, *Class. List*, p. 488), appears in connexion with rivers in an interesting Tablet K. 4007, which treats of seven non-terrestrial streams. It must be remembered that in sacred or semi-sacred accounts geography and uranography are at times intermingled, and the mythical and the mystical intrude upon the actual; whilst things on earth are frequently named after and are supposed to correspond occultly with things celestial. I will first refer to *W. A. I.* II. li. Nos. 1 and 2, which have some bearing upon this Tablet. No. 1, which has been translated by Prof. Sayce (*Records of the Past*, xi. 147-50), and which is called an 'Assyrian Fragment on Geography,' first gives a list of countries, several of which, such as 'the country of Arallû' (Hadês), do not belong to terrestrial geography, and then (l. 25) contains a list of rivers, at the eleventh line of which the Tablet is broken off. Amongst the terrestrial rivers mentioned are the Masgugar ('the Current,' *i.e.*, 'rapidus Tigris'), which is explained as 'the Bringer of Fertility'; the Udkipnunki ('the King-of-the-Plain-of-Eridu,' *i.e.*, the Euphratês), which is explained as 'the Life of the Land'; the Arakhtu (Gk. 'Ἀράξης), and the Ulâ (Heb. Ulai, Dan. viii. 2; Gk. *Εὐλαῖος*). Some other rivers mentioned are 'the River of Mighty waters,' whatever this may be, which is explained 'as giving life to the Enclosure of life' (Cf. *Gilgatil*, *sup.* p. 185); 'the River of the Fish,' explained as 'the River of Fishes'; 'the River of the Bird,' explained as 'the River of



Birds'; 'the River of the Serpent,' explained as 'the River of Serpents'; and 'the River of the goddess of Nisinna,' explained as 'the River of the goddess Gula' (Vide *inf. Záψ*). In l. 44 'the River of the Serpent' is explained as the *Nahru Martû* ('The Bitter-river'), i.e., the Ôgên-Ôkeanos ('Canal-of-water,' Vide Vol. I. 354), the encircling Ocean-stream (Vide *Ib.* 104-5).

Turning now to *K.* 4006 + *K.* 4179 we find mention made of 'the River of Fishes,' 'the River of Birds,' 'the River of Serpents,' 'the River of the goddess Gula,' 'the River of the god Marduk,' 'the River *Gan-gal*' ('The High-cloud'), and 'the River of the Sun-god.' As we have seen, the first three Rivers are those of the Fish, Bird and (Ocean-stream) Serpent; and the explanation of the Serpent-river above given, shows that we are not here concerned with earthly streams. 'The River of the High-cloud' can only be the Milky Way (Vide Vol. I. 105), 'the inaccessible Stream' of Egyptian mythology (*Sup.* p. 75). Gula ('the Great-one'), whatever else she may have been, came to represent the primeval Ak. goddess Gurra ('the Watery-deep'); and hence her river is what Jensen calls the 'Weltmeer,' the *Zuab-abzû* (Gk. *Záψ*) or primordial abyss (Vide Vol. I. 352). 'The River of the Fish' will be that from the *Urn* of *Aquarius* to the *Piscis Australis*, of which Arâtos says, near

'The right hand of the famous *Waterpouser*,  
Like a slight flow of water here and there  
Scattered around, bright stars revolve but small,  
And all are called the *Water*' (*H. D.* 392-4, 399).

This 'River of the *Fish*' becomes 'the River of the *Fishes*,' in which the Sea-horse, the Sea-goat, the

Sea-monster, the Dolphin, the two zodiacal Fish and the Southern Fish all swim. 'The River of the Bird' will be that part of the *Via Lactea* in which the constellation *Khuzaba-Ornis* (= *Cygnus*) is situate. This becomes 'the River of the Birds,' as it passes close by *Vultur* (= *Lyra*) and flows through *Aquila*. 'The River of the Sun-god' is of course that of Ningirsu-Tammuz, 'the River of *Orion*,' *Eridanus*, on the banks of which the luckless Sun-god, Phaethôn, fell (Vide R. B. Jr., *E.*) There remains 'the River of Marduk.' I am not at present able to show that the *Perseus*-figure of our sphere was Marduk in the Euphratean sphere; but many circumstances incline me to this opinion, and I believe that 'the River of Marduk' was the Galaxy as it flows through *Perseus* and past *Capella*, the Marduk-star, and so down southwards to *Orion*.

## CHAPTER XV.

### The Euphratean Star-List.

At this point in the enquiry it is desirable to tabulate the results of the identifications of constellations, asterisms and fixed stars already obtained; and at this point I would again refer to a wise caution by Prof. Max Müller, which, given by him with reference to etymologies, is equally applicable here:—‘We must not clamour for mathematical accuracy.’ I do not for a moment pretend that all previous identifications will ultimately be found to be absolutely correct. Such a result would show an insight almost miraculous. Here, as everywhere, probability is the guide of life; and we do our best with the material at present available, satisfied at least of one thing, viz., that our general principles of treatment are correct, and that all the more important conclusions arrived at are beyond reasonable doubt. The stellar identifications previously suggested are as follows:—

#### I.—NORTHERN CONSTELLATIONS, ETC.

<i>Tiranna</i> ('Judge-of-heaven'), also called <i>Azāga-siqqa</i> ('High-horned-one'), <i>Diluri</i> ('Proclaimer-of-light'), and <i>Dugga-gilgatil</i> ('High-one-of-the-enclosure-of-life'), = Sem. <i>Dayan-samê</i> .	$\left. \vphantom{\begin{array}{l} \text{ } \\ \text{ } \\ \text{ } \\ \text{ } \end{array}} \right\} = \text{Polaris} (= \alpha \text{ Draconis})$
<i>Esbar-anki</i> ('Crown-of-heaven'), = Sem. <i>Uzzu-samê</i> and <i>Dayan-sisa</i> ('Directing-judge').	$\left. \vphantom{\begin{array}{l} \text{ } \\ \text{ } \end{array}} \right\} = \beta \text{ Ursae Min.}$

*Giszalibri-giski* ('Temple-of-the-Four-in-the-place-of-the-height-of-heaven'), = Sem. *Lib-uzzi-māti* ('Place-of-the-Crown-of-the-land'). } =  $\beta, \gamma, \eta, \xi$  *Ursae Min.* (Vide Vol. I. 25).

*Samelā* ('Wild-heifer, voice-of-abundance'), = Sem. *Lā-kul-lali*. } =  $\gamma$  *Ursae Min.*

\* *Marturra* ('Small-chariot'), = Sem. *Ru-kūbu*. Also called *Antasurra* ('High-in-rising'), = Sem. *Tsuppur-sa-libbi* ('Circler-of-the-midst'). } = *Ursa Min.*

*Margidda* ('Long-chariot'), also called *Mulmosarra* ('Lord, voice-of-the-firmament') and *Ak-anna* ('Lord-of-heaven.' Gk. *Agavva.*), Sem. *Bil-zakki-māti* ('Lord-of-the-Ghost-world'). } = *Ursa Maj.*

*Ualuzun* ('Numerous-flock'), = Sem. *Tsēnē* ('Flocks'). } = *Cepheus*.

*Kassēba* ('Lady-of-corn'), = Sem. *Bēlat-ibri*. Sem. *Zir-banitu* ('Creatress-of-seed'), = *Zarpanit*. } = *Cassiopeia*.

*Lugal* ('King'), = Sem. *Sarru*. Also called 'the star of the god *Lugal*.' } = *Hercules*.

*Raditartakhu* ('Lammergeier'), = Sem. *Karib-barkhāti* ('Antelope-attacker'). } = *Lyra* (*Vultur*) and *Vega* (a *Lyrae*).

*Khuzaba* ('Bird-of-the-forest'), = Sem. *Ittsur-qisti*. } = *Cygnus* (*Ornis*).

*Idkhu* ('Eagle'), = Sem. *Nasru*. } = *Aquila* and *Altair*.

*Zamama* ('Living-eye'). } = *Aquila*.

*Nerzak-Zamama* ('Right-foot-of-the-Living-eye'). } =  $\eta$  *Aquilae*.

*Nergub-Zamama* ('Left-foot-of-the-Living-eye'). } =  $\delta$  *Aquilae*.

*Sibzianna* ('Shepherd, spirit-of-heaven'), also called *Papsukala* ('Guardian-messenger'), = Sem. *Ri'u-but-samē*. } = *Boötēs* and *Arcturus*.

*Gil* ('Crown'), = *Agū* (Vide *sup.* p. 129). } = *Corona*.

*Kha* ('Fish'), = Sem. *Nānu* (Vide *sup.* p. 130). } = *Delphinus*.

*Ama?* ('The Pregnant'), = Sem. *Eritu*. *Mulidtu* (Gk. *Múlurra*). } = *Andromeda*.

<i>Sibi</i> ('Double-eye').	= <i>Algol</i> ( $\beta$ <i>Persei</i> ).
<i>Ansu-kurra</i> ('Horse'), = Sem. <i>Sisû</i> .	= <i>Pegasus</i> .
<i>Likbarra</i> ('Hyena'), = Sem. <i>Akhû</i> . Also called <i>Kus-Marduk</i> ('Hyena-of-Merôdach').	} = $\zeta$ , $\alpha$ , $\gamma$ <i>Pegasi</i> .
<i>Mar-urbi</i> ('The Chariot-by-itself'), Sem. <i>Narkabtu-istênis</i> . Also called <i>Gar</i> ('Chariot') and <i>Sugi</i> ('Chariot-yoke').	
<i>Dilgan</i> ('Messenger-of-light'). Also called <i>Kakkab Marôdûki</i> ('The Star of Merôdach'), <i>Askar</i> ('the Goat'), and <i>Mâtu</i> ('Tempest'-star), Sem. <i>Iqû</i> ('Gate'-star).	} = <i>Capella</i> ( $\alpha$ <i>Aurigae</i> ).
<i>Nutsirda</i> ('Prince-of-the-Serpent'), Sem. <i>Namassû</i> ('Reptile'). Also called <i>Anugê</i> ('Lord-of-the-Under-world').	
<i>Mulubat</i> ('Man-of-death').	= $\epsilon$ , $\zeta$ <i>Serpentarii</i> .
<i>Tsir</i> ('Snake').	= $\eta$ , $\xi$ , $\theta$ <i>Serpentarii</i> .

If we refer to the list of the primitive northern constellations of the Greeks (Vide Vol. I. 10), we shall find that all of them are included in the above list, except the *Serpent* (*Draco*), *Perseus*, the *Triangle*, and the *Arrow*. The two former are Phœnician constellation-figures, although *Perseus* may also=Marduk. The *Triangle*, too, is specially Phœnician, but, as noticed (*Sup.* p. 52), is also found in Euphratean art; in which occurs a representation of the Solar-hero armed with bow and arrow, contending against a Demon-bird (*Sup.* p. 48). I have not, however, yet met with the *Arrow*, which would be *Kakkab* (Ak.) *Giskû*, (Sem.) *Kakku*, *Tukultu* or *Uttsu*, as a separate Euphratean constellation; and it may have been a Phœnician addition, as shot from the bow of *Harekhal-Melqârth* (=Hercules). The list also includes all the northern first magnitude stars, namely, *Arcturus*, *Capella*, *Vega* and *Altair*.

II.—CENTRAL OR ZODIACAL CONSTELLATIONS, ETC.

- Lulim* ('Ram'), Sem. *Lulimu*. Also called *Kuê* ('Messenger'), Sem. *Ágaru*, and Sem. *Kusariqu* ('Strong-horned-one'). } = *Aries*.
- Lulim* ('Ram'). = *Hamal* ( $\alpha$  *Arietis*).
- Gum* ('Scimitar,' or 'Sickle'). { =  $\alpha, \beta, \gamma$  *Arietis*, +  $\alpha$  *Pisium*.
- Mahrû sa rîsi Kusariqqi* ('The Westerly-one of the head of the *Ram*'). } =  $\beta$  *Arietis*.
- Arkû sa rîsi Kusariqqi* ('The Easterly-one of the head of the *Ram*'). } = *Hamal*.
- Mul* ('the Star'). Also called *Îmina-bi* ('Sevenfold-one'), and *Tê* ('Foundation'), Sem. *Têmennu* and *Arîtum* ('Cluster'). } = *Pleiades*.
- Tê-Tê* ('The Foundations'). = *Pleiaides* and *Hyades*.
- Gut-lûa* ('The Bull-in-front'). Also called *Amar* ('Bull'), and *Gut-anna* ('The Bull-of-heaven'). } = *Taurus*.
- Bir* ('The Red'). Called in Sem. *Pûlnu* ('Yoke,' 'Furrow'). } = *Aldebaran* ( $\alpha$  *Tauri*).
- Sur Narkabti sa iltânu* ('The Northern-light of the *Chariot*'). } =  $\beta$  *Tauri*.
- Sur Narkabti sa sâtu* ('The Southern-light of the *Chariot*'). } =  $\zeta$  *Tauri*.
- Mastabba-galgalla* ('The Great-twins.' Lunar Zodiac). } = *Pleiaides* and *Hyades* (*Pleiad* and *Aldebaran*).
- Khigallâ* ('Canal-of-water'). =  $\eta, \mu, \nu, \gamma, \xi$  *Geminorum*.
- Mahrû sa pû Mâsu* ('The Westerly-one at the beginning of the *Twins*'). } =  $\eta$  *Geminorum*.
- Arkû sa pû Mâsu* ('The Easterly-one at the beginning of the *Twins*'). } =  $\mu$  *Geminorum*.
- Mâsu sa Rî'u* ('The *Twin* of the *Shepherd*'). } =  $\gamma$  *Geminorum*.
- Mâsu mahrû* ('The Westerly *Twin*'). = *Castor* ( $\alpha$  *Geminorum*).
- Mâsu arkû* ('The Easterly *Twin*'). = *Pollux* ( $\beta$  *Geminorum*).

- Mastabba-galgal* ('The Great-twins.'  
Solar Zodiac), Sem. *Tuame rabûti*.  
Also called *Ankiames* ('The Heaven-  
and-earth-pair'). } = *Gemini* and *Castor*  
and *Pollux*.
- Supa* ('Lustrous'), Sem. *Namru*. } = *Castor* and *Pollux*.
- Nagar-asurra* ('Workman-of-the-river-  
bed'), Sem. *Namgaru*. Also called  
*Allab* ('Hero'), Sem. *Kul-samsi asri*  
('Voice-of-the-sun-place') and *Gusir-  
kesla* ('Yoke-of-the-Enclosure'), Sem.  
*Nîru-sa-samê* ('Yoke-of-heaven'). } = *Cancer*.
- Mahrû sa Namgaru sa sîtu* ('The  
Westerly-one at the south of the  
*Crab*'). } =  $\theta$  *Cancr*i.
- Lib Namgari* ('The Middle of the  
*Crab*'). } =  $\epsilon$  *Cancr*i.
- Mahrû sa Namgaru sa iltânu* ('The  
Westerly-one at the north of the  
*Crab*'). } =  $\gamma$  *Cancr*i.
- Arkû sa Namgaru sa sîtu* ('The Easterly-  
one at the south of the *Crab*'). } =  $\delta$  *Cancr*i.
- Mastabba-turtur* ('The Little-twins'). } =  $\gamma$  and  $\delta$  *Cancr*i.
- Lulla* ('Fox'). } =  $\alpha$  *Cancr*i.
- Lik-makh*, otherwise *Lik-gula* ('Lion'),  
Sem. *Arû-rabû*. } = *Leo*.
- Gisbar* ('Wood-of-light'), otherwise *Gam*  
('Sickle'). } =  $\eta$ ,  $\gamma$ ,  $\zeta$ ,  $\mu$ ,  $\epsilon$ ,  $\lambda$  *Leonis*.
- Ris Ari* ('Head of the *Lion*'). } =  $\epsilon$  *Leonis*.
- Lugal* ('The King'), Sem. *Sarru*. Other-  
wise *Gubbara*. } = *Regulus* ( $\alpha$  *Leonis*).
- Mâru sa ribi arkat Sarru* ('The Small-  
one of the region after the *King*'). } =  $\rho$  *Leonis*.
- Ilu Kua* ('Oracle-god'). } =  $\delta$  and  $\theta$  *Leonis*.
- Zibbat Kalbi Ari* ('The Tail of the *Dog*  
of the *Lion*'). } =  $\theta$  *Leonis*.
- Zibbat Ari* ('The Tail of the *Lion*').  
Ak. *Lamassu* ('The Flaming-one'),  
and *Bililara* ('White-fire'). } = *Denebola* ( $\beta$  *Leonis*).
- Abnam* ('Proclaimer-of-rain'). } = *Virgo*.
- Ninsar* ('Lady-of-heaven'). } =  $\gamma$  and  $\eta$  *Virginis*.
- Urragal* ('The Great-city-god'). } =  $\delta$  and  $\epsilon$  *Virginis*.

- Sépu arkû sa Ari* ('The Easterly-foot of the Lion'). } =  $\beta$  *Virginis*.
- Sur mahrû Sirû* ('The Bright-one westerly of the Ear-of-corn'). } =  $\gamma$  *Virginis*.
- Sakh* ('The star of Prosperity'), Sem. *Damaku*. Also called *Khi-sé* ('Propitious-one-of-seed'), (Sem.) *Nibittu sa Sirû* ('The one called Ear-of-corn'), and *Séma* ('Corn-bearer.' K. 10,932). } = *Spica* ( $\alpha$  *Virginis*).
- Lulim* ('He-goat'). Also called *Uz* ('Goat'). } =  $\iota$ ,  $\kappa$ ,  $\lambda$  *Virginis*.
- Mulu-izi* ('Man-of-fire'). } =  $\mu$  *Virg.* and  $\delta$  *Librae*.
- Mastabba sa ina limit Sibzina* ('The Twins in the neighbourhood of the Shepherd, spirit of heaven'). } =  $\delta$  and  $\epsilon$  *Virginis*.
- Ziba-anna* ('Life-maker-of-heaven'). Sem. *Zibânitu* ('The Claws'). Also called *Nilub* ('Lofty-altar'). } = *Chelai* (*Libra*).
- Zibânitu sa sâtu* ('The southern Claw'). } =  $\alpha$  *Librae*.
- Zibânitu sa iltânu* ('The northern Claw'). } =  $\beta$  *Librae*.
- Bêlit* ('The Lady'), also called *Nin-makh* ('The Great Lady'). } =  $\alpha$  and  $\beta$  *Librae*.
- Entenamastuv* ('Lord-of-the-foundation-of-brickwork'). As a Lunar asterism. } = 20 *Librae* and stars adjacent.
- Girtab* ('Scorpion'), also called *Gir-anna* ('Scorpion-of-heaven'). } = *Scorpio*.
- (*Gis*)-*Gangusur* ('Tree-of-the-garden-of-light'). } =  $\beta$ ,  $\delta$ ,  $\pi$  *Scorpionis*.
- Qablu sa risi Agrabi* ('The Middle-one of the head of the Scorpion'). } =  $\delta$  *Scorpionis*.
- Rabû sa risi Agrabi* ('The Great-one of the head of the Scorpion'). } =  $\beta$  *Scorpionis*.
- Dar-lugal* ('The Great-one, the King'). } = *Antares* ( $\alpha$  *Scorpionis*).
- Girtab* ('Scorpion'). As a Lunar Asterism. } =  $\theta$ ,  $\iota$ ,  $\kappa$ ,  $\lambda$  and  $\nu$  *Scorpionis*.
- Sar-ur* ('Director-of-fire'). } =  $\theta$  and  $\iota$  *Scorpionis*.
- Sar-gaz* ('Director-of-sacrifice') } =  $\kappa$ ,  $\lambda$  and  $\nu$  *Scorpionis*.



- Udgudûa* ('Smiting-sun-face'), Sem. } = *Sagittarius*.  
*Yâmu-nahri* ('Day-of-dawn'). }
- Papilsak* ('Winged-fire-head'). Also } =  $\lambda$  and  $\mu$  etc. *Sagit-*  
 called *Ega* ('Crown'), Sem. *Agû*, } *tarii*.  
 and *Anunitum* ('Great-goddess-star'). }
- Sugub-Udgudûa* ('Left-hand etc.'). =  $\gamma$  and  $\delta$  *Sagittarii*.
- Ur-nêrgub-Udgudûa* ('Sole of the left- } =  $\beta^1$  and  $\beta^2$  *Sagittarii*.  
 foot etc.'). }
- Sinunutum* ('The Swallow'). =  $\gamma$ ,  $\delta$ ,  $\epsilon$  *Sagittarii*.
- Gusirabba* ('Yoke-of-the-Sea'), Sem. }  
*Nabû tamti* ('Proclamation-of-the- } =  $\zeta$ ,  $\sigma$ ,  $\pi$  *Sagittarii*.  
 Sea'). Also called *Nunpê* ('Lordly- }  
 city'-star). }
- Munakha* ('Goat-fish'). Also called } = *Capricorn*.  
*Sudul* ('Yoke'), Sem. *Nîru*. }
- Uz* ('Goat'), Sem. *Enzu*. =  $\alpha^1$  and  $\alpha^2$  *Capricorni*.
- Saksadi* ('Bright-horn-of-slaughter'), } =  $\beta$  *Capricorni*.  
 also called *Sâsi* ('Slaughter-horn'). }
- Qarnu Enzi* ('Horn-of-the-Goat'). =  $\alpha$  and  $\beta$  *Capricorni*.
- Mahrû sa suhûri Enzi* ('The Westerly- } =  $\gamma$  *Capricorni*.  
 one of the tail of the Goat'). }
- Arkû sa suhûri Enzi* ('The Easterly-one } =  $\delta$  *Capricorni*.  
 of the tail of the Goat'). }
- Gusisa* ('The Directing-urn'), also called } = *Aquarius* (part).  
*Gula* ('Urn'). }
- Apin* ('Foundation'), Sem. *Epinu*. } =  $\alpha$ ,  $\gamma$ ,  $\zeta$ ,  $\eta$ ,  $\theta$ ,  $\lambda$  and  $\delta$   
*Aquarii*. }
- Nam-makh* ('The Mighty-destiny'). }  
 Also called *Subat sa ina zumbi* ('The } =  $\beta$  *Aquarii*.  
 Powerful one, which is at the Tails'). }
- Kha* ('Fish'), Sem. *Nûnu*. = *Pisces* (part).
- Durki* ('Cord-place'), Sem. *Riksu-nûni*. =  $\eta$  *Piscium*.

## III.—SOUTHERN CONSTELLATIONS, ETC.

- Dûwuzi* ('Son-of-life'), also called }  
*Ningirsu* ('Lord-of-the-River-bank'), } = *Orion*.  
 and (the southern) *Sibzianna* ('Shep-  
 herd, spirit-of-heaven'), Syrian Tam-  
 muz, Gk. 'Aθâpas. }

- Lugal* ('The King.' In the Lunar Zodiac.), Sem. *Sarru*. Also called *Abnam*, Sem. *Shashurru* ('Vermilion'). } = *Betelgeuse* ( $\alpha$  *Orionis*).
- Mastabba-turtur* ('The Little twins.' In the Lunar Zodiac.). } =  $\lambda$ ,  $\phi^1$  and  $\phi^2$  *Orionis*.
- Lik-Udu* ('Dog-of the-Sun'), Sem. *Kalab Samsi*. } = *Canis Maj*.
- Ban* ('Bow'-star), Sem. *Qastu*. Also called *Ka-likku* ('The tongue-of-the-Dog'), Sem. *Lisân - Kalbi*; *Idkhu* ('the Powerful'), and *Urul* ('Bronze'-star), Sem. *Êrîl*. } = *Sirius*.
- Pallika* or *Palura* ('The Crossing-of-the-Water-dog'). } = *Canis Min*.
- Kaksisa* ('the Leader'), Sem. *Mesrê*. Also called Sem. *Sukudu* ('the Restless') or *Sukunu* ('the Blazing'). } = *Procyon*.
- Maganda-anna* ('Ship-of-the-canal-of-heaven'). } = *Argo*.
- Tsir-gal* ('The Great-snake'). } = *Hydra*.
- Katsir-ninakê* ('The Mouth-of-the-Snake-drinks'). } = *Caput Hydrae* ( $\delta$ ,  $\sigma$ ,  $\eta$ ,  $\epsilon$ ,  $\rho$ ,  $\zeta$  *Hydrae*).
- Alla* or *Tsir* ('Snake'), Sem. *Tsirû*. Also called *Turus malmakh* ('Son-of-the-Supreme-temple'). } = *Alphard* ( $\alpha$  *Hydrae*).
- Entenamashuv* (As a constellation. Vide *sup.* pp. 86-87). } = *Hydra*.
- Lut-Tsirna* ('The Bowl-of-the-Snake'), also called (*Gis*)-*Li-e* ('the Bowl' or 'Vessel'), Sem. *Karpat-Tsirî*. } = *Crater*.
- Imdugudkhu* ('Great-storm-bird'), also called *Khusêmakh* ('Bird-of-the-Great-seed') and *Khu-Sebain* ('The Bird *Sebain*'), Sem. *Zû* ('Storm-wind' and 'Vulture'), and *Ramânu - ikabbid* ('*Ramân*-is-terrible'). } = *Corvus*.
- Ansu-Kurra* ('The Horse.' In the Lunar Zodiac.). } = *Corvus*.
- Gud-êlim* ('Horned-bull'), Sem. *Kusa-riqqu* ('Strong-horned-one'). } = *Centaurus*.
- Suzak-Gudêlim* ('The Right-hand of the Centaur'). } =  $\kappa$  and  $\sigma$  *Centauri*.

<i>Sugub-Gudêlim</i> ('The Left-hand of the Centaur').	} = $\eta$ Centauri.
<i>Nergub-Gudêlim</i> ('The Left-foot of the Centaur').	} = $\alpha$ and $\beta$ Centauri.
<i>Ligbat</i> ('Beast-of-death').	= <i>Lupus</i> .
<i>Kisbat-ala</i> ('Ancient-altar-below').	= <i>Ara</i> .
<i>Siladakhabi</i> ('Fish-of-the-Canal').	= <i>Piscis Australis</i> .
<i>Kumar</i> ('Dusky'-one), also called <i>Bisgal</i> ('The Great-dragon').	} = <i>Cetus</i> .
<i>Akhna</i> ('Glow-worm-of-eclipse').	= <i>Mira</i> ( $\alpha$ Ceti).
<i>Pur-êdin</i> ('Strong-one-of-the-plain'), Sem. <i>Êrû-êdinu</i> , Gk. <i>Ἡριδανός</i> . Also called <i>Hid-Ili-Ningirsu</i> ('River-of-the-god-Lord-of-the-bank'), Gk. <i>Ἡριδανός Ποταμὸς</i> .	} = <i>Fridanus</i> ( <i>Potamos Amnis</i> ).

In this list all the primitive southern constellations of the Greeks are included except the *Hare* (Vide Vol. I. 97). It is not unnatural that but little should have been said in the Tablets about such a small and comparatively unimportant figure as the 'pale' and 'dusky' *Hare*, as Arâtos calls it. But it is probable that ultimately the *Kakkab Ka-êdinna* ('Face-of-the-desert,' i.e., *Hare*) will appear in some fragment or other, and will thus vindicate the complete dependence of the West upon the Euphratean sphere. The *Hare* is a very important figure in Zoological Mythology. Of the southern first magnitude stars *Sirius*,  $\alpha$  and  $\beta$  Centauri, *Procyon* and *Betelgeuse* appear individually. *Rigel* (Ar. *Rijl*, 'the Foot'—of *Orion*),  $\beta$  *Orionis*, which in Ptolemy's list is common to *Orion* and the *Stream*, may perhaps be specially referred to as *Pur-êdin*; whilst  $\alpha$  and  $\beta$  *Crucis* would appear in the hind legs of *Gud-êlim*, the account of which has been lost. I do not know what was the Euphratean name of *Canopus*, second

in splendour of the starry host, and which would be just visible low down in the southern sky (Vide Vol. I. 103). The remaining first magnitude star, *Achernar* (=Ar. *Âkhir-al-nahr*, 'the End-of-the-River'), is too far south to be seen from Babylôn.

Many other star-names besides these above mentioned occur in the Tablets. Some of them are additional names of several of the foregoing stars. Others are planetary names; others are names of other celestial phenomena, *e.g.* :—

*Kakkab Ugaga-khu* ('the Raven'), Sem. *Aribu*. A comet (Vide *sup.* p. 171).

*Kakkab Zur* ('Illumination'), Sem. *Tsarûru* (K. 12,702). Either a meteor or lightning. *Ramân*, the Storm-god, is the *Ilu Zur* (Vide Brünnow, *Class. List*, p. 141).

*Kakkab Zurma* (K. 11,129). This Tablet, in the opinion of Dr. Bezold, treats of 'astrological forecasts taken from observations of meteors,' and is probably a part of the *Ênu Bili* (*Cat.* iii. 1140).

*Kakkab Batga* (Rm. 2, 114) or *Batgakas* (K. 7275. 'Death-road'). Probably the Milky Way, so frequently connected with the Souls of the dead (Vide Vol. I. 105). Thus the Lunar Asterism *Khigallâ* ('The Canal-of-water.' *Sup.* p. 75) primarily refers to the Galaxy, and reappears in the derivative Persian scheme as *Rakhvad* ('the Watery-way'), which is connected with the *Râhi-hâjiyân* ('Road-of-the-Pilgrims,' *i.e.*, the Dead)=the *Via Lactea* (Vide R. B. Jr., *E. S. R.* Pt. v. 18). *Batga* is not *Mars*, for *Mars* is mentioned in the same Tablet, both as 'the god *Zalbat*' and 'the star *Manma*.'

*Kakkab Ilu Nin-Pes* ('The Star of the god Lord-of-the-Boar' or 'Pig.' K. 12,325), also called

*Kakkab Pes* ('Star of the Boar.' *W. A. I.* II. xlix. 49). The god *Nin-Pes* is mentioned in *W. A. I.* II. lx. 23, and two of the principal divinities of the Euphratean pantheon, *Ninip-Bêr* and *Ramân*, are connected with the animal. *Bêr* is the 'Lord-of-the-Boar' (*Ib.* II. lvii. 39), and, as he is the god of the planet *Saturn* (Vide Vol. I. 244), I connect the *Kakkab Pes* with that planet. As to *Ramân*, Prof. Sayce observes, 'Rimmon, when worshipped as *Mâtu* ['Tempest'-god], was also known as *Khumuntsir*, the Accadised form of the Semitic *Khumtsiru*, "a pig" (*W. A. I.* III. lxviii. 70; *Rel. Anct. Babs.* p. 153, n. 6). Now the god *Nin-Pes-êdinna* ('Lord of the Boar of the desert. Vide Brünnow, *Class. List*, p. 449) is a divinity whose name, by some read *Aitsu*, may also be read (as I prefer) *Yari*; and *Yari*, lord of the wild boar of the desert, appears to me to be *Ôrî-ôn* (Vide Vol. I. 254), *Tammuz-Adônîs*, who received his fatal wound when hunting that animal. Here we have in origin the myth of the death of the Solar-hunter, stricken by the tusk of the Boar of storm and darkness.

*Kakkab Uzu-zallu* ('The Star of the Bright-body.' *W. A. I.* II. xlix. 53). A comet.

*Kakkab Gal* ('The Great-star'). Sem. *Rabû* (*W. A. I.* III. lii. No. 1, l. 9). A comet. 'In its rising like the body of a scorpion a tail it forms' (l. 2).

*Kakkab Ud-khir* ('White-rising.' *W. A. I.* II. xlix. 54)=Sem. *Azkaru* ('The New-moon.' Vide Brünnow, *Class. List*, p. 326).

The connexion between the planets and colours is one of remote antiquity. In the Temple of the Seven Spheres (Planets) at Barsipki (Vide Vol. I. 327), the seven stages from the base were coloured respectively

—Black for *Saturn*, Orange for *Jupiter*, Red for *Mars*, Golden for the Sun, pale Yellow for *Venus*, Blue for *Mercury*, and Silver for the Moon. This is illustrated by the following seven star-names, which occur in *W. A. I.* II. xlix. No. 4:—

*Kakkab Aban Dusia* (Sem. *Dûsu*. ‘The Star of the Diamond-stone’)=*Saturn*.

*Kakkab Aban Kha-urud* (Sem. *Nûn-êri*. ‘The Star of Bronze-fish-stone’)=*Mars*.

*Kakkab Aban Zakur* (Sem. *Uknû*, ‘lapis lazuli.’ ‘The Star of the Blue-stone’)=*Mercury*.

*Kakkab Babbar* (Sem. *Kaspu*. ‘The Star of Silver’)=the Moon.

*Kakkab Guski* (Sem. *Khuratsu*. ‘The Star of Gold’)=the Sun.

*Kakkab Urud* (Sem. *Êrû*. ‘The Star of Bronze’)=*Jupiter*.

*Kakkab Nâbi* (‘The Star of the Proclaimer.’ Vide *sup.* p. 96)=*Venus*.

Other star-names are partly mutilated and so untranslatable, and there are also various star-names respecting which I do not at present offer any suggestions. Such are the Kabeiric star-names *Kasmîlu*, *Kaskhiszu*, *Kassikisu*, and *Kassa* (Vide Vol. I. 356), and *Tasana*, *Irbie*, *Uttid-ummari*, *Imsugilna*, *Kîb-bubu*, *Antaruruba*, *Rapasilugil*, *Kassu* (Cf. *Kassa*), *Tsidar-antusi*, *Edan-antusi*, *Etur*, *Rutur* and *Kalmati*.

The *Kakkab Martu* (‘Star of the West’) is probably *Dilgan*, which is the first of the 12 stars of the West (Vide *sup.* p. 160). *Martu* seems also to be connected with *Ramân-Mâtu*, the Storm-god (Vide Sayce, *Rel. Anct. Babs.* p. 153, n. 6), which further points to *Dilgan* (*Capella*).

The *Kakkab Ili Ninazu* (=Ninip-Bêr) probably =*Entenamasluw*, as a Lunar Asterism (Vide *sup.* p. 86).

The *Kakkab Ili Éa* (Tab. 79-7-8, 223) appears to be *Gangusur* (Vide *sup.* p. 87).

In *W. A. I.* III. liii. No. 1, l. 29 we read:—

	<i>Kakkab Pal-dara</i>	<i>sukhal</i>
'The constellation	<i>Libation-of-Ninip</i>	messenger
<i>ili</i>	<i>Tiskhu</i>	<i>ana</i>
of the god	<i>Tiskhu,</i>	to the
	<i>Girtab</i>	<i>dikhu</i>
of the <i>Scorpion</i> (is) opposite.'		constellation

The *Ak. pal*=Sem. *naqû* ('to make a libation'); *Dara*=Ninip (Vide Brünnow, *Class. List*, p. 426). *Tiskhu*=Ninip as 'god of libations' (Pinches, in *Proc. S. B. A.*, June, 1894, p. 226). *Paldara*, the constellation of Ninip, and which faces *Scorpio*, probably=the original zodiacal *Altar* (Vide Vol. I. 69), afterwards *Chelai*, and now *Libra*. Ninip and Ip are also connected with *Entenamasluw* (20 *Librae* etc. Vide *sup.* pp. 86-87).

The *Kakkab Utssu* ('Star of the Falcon.' *W. A. I.* III. lviii. No. 11, l. 7)=*Ornis* or *Vultur* (*Lyra*).

The *Kakkab Kumaru* (of *Udgudûa*) has been noticed (Vol. I. 78; *sup.* p. 193).

The *Kakkab Mâkhar* (*Sup.* p. 93)=*Capricorn*.

The *Kakkab Ul-anna* ('Sign-of-heaven'), Sem. *Asmu-samê*, mentioned in Tab. *Rm.* 2, 174, with *Capella*, the *Pleiades*, *Orion*, *Gemini*, *Procyon* and *Sirius*, probably=the *Hyades*.

Thus, after making all due allowances in respect of doubtful and unknown stars, we shall have succeeded in identifying no small portion of the stellar host; and are able to place the study on a firm basis from

which further investigations may be conducted in the future.

Following previous authority, I had assumed that there was a Euphratean 'Bear'-star (Vide Vol. I. 259). But further careful investigation has convinced me that this view is erroneous, and that we should read, not 'bear,' but *Damaku* ('the Prosperous'), i.e., *Spica* (Vide *sup.* p. 84). It is a relief to get rid of the Bear, as there is clearly no place for him in the Euphratean Sphere (Vide Vol. I. 260).

As regards cities and patron stellar divinities, Sin (the Moon) was the patron of Ur, Samas (the Sun) of Sippara (Sepharvâim, 2 *Kings*, xviii. 34), and Larsa (Ud-lab-ki); *Venus* and the Pole-star of Uruk (Erech), otherwise Unu-ki (=Heb. Hanôkh, *Gen.* iv. 17); Marduk (*Jupiter*) and Dilgan (*Capella*) of Ka-dimir-ra-ki (Babylôn); Zalbat (*Mars*) of Gudua-ki (Kûtha), *Margidda* (the *Wain*) of Nippur, Zamama (the *Eagle*) of Kis (Hymar), Ningirsu (*Orion*) of Lagash (Telloh), Nunpê ( $\zeta, \sigma, \pi$  *Sag.*), an Éa-asterism, of Eriduga, and the Gula-star (the *Urn*) of Nisinna, the site of which is unknown.



## CHAPTER XVI.

### **The General Concepts underlying the Constellation-figures.**

HAVING thus, to a considerable extent, reconstructed the Euphratean celestial sphere, and, in so doing, proved that it was practically the mother and origin of the celestial spheres used by civilized nations whether Classical or modern, we have next to enquire what were the causes which resulted in the selection of certain particular constellation-figures. To do this efficiently we must, as far as possible, adopt the mental standpoint of the early dwellers in the Euphratês Valley, and look round upon the external world with their eyes. We may be encouraged in the attempt by the reflection that we gaze upon the same phenomena which met their sight; and, further, that we regard them with the same human mind, which, throughout all its varied phases of power, knowledge and ignorance, is, nevertheless, practically one and identical. The root-ideas, concepts and feelings which dominated remote Semites and Sumerians, rule over ourselves; and therefore we are looking back, not upon unknown creatures, but upon ourselves as we existed, under somewhat different conditions, in the morning of the world. The natural course of man's thought is from the simple to the complicated, from the obvious to the occult. Long ere he entered upon any detailed study of the stellar

host, he was occupied in considering the great and simple natural phenomena of light and darkness, the ordinary dyad of which is day and night, so closely connected with sun and moon. To these may next be added wind, tempest, clouds and the stars as a whole. A brief careful observation of the latter luminaries under favourable conditions, revealed the distinction between the fixed stars and, at least, the four principal planets. To these must be added the phenomenon of the rainbow and the occasional horror of an eclipse.<sup>1</sup> The first point upon which man had to satisfy himself was that regularity and stability pervaded the phenomena of the external world, that it was dominated by what I have called the Law of Kosmic Order. With this principle eclipses appeared at first to be in striking conflict, and the horror which they occasioned represents the terrible doubt that the belief in the order and stability of things to which the race had slowly attained, was in reality erroneous. On the terrestrial side, man observed himself and his fellow and the other animals, the productions and varieties of the earth, and the sea. He was conscious, more or less dimly, of the ideas of power, force, life, fear, love in its variant phases, and he could measure. From the necessity of his being he measured from himself, and he argued by analogy. Thus, in his thought and speech he enveloped all things in a web or principle of anthropomorphism. He sometimes believed literally in his own phrases; at other times,

<sup>1</sup> Cf. Archilochos, 'Nothing is to be unlooked for by men, nothing gainsaid upon oath, nothing is marvellous, seeing that Zeus has brought about night from noon-day, hiding the light of the sun, and grievous fear came upon men' (Frag. lxxiv., ap. Bergk, tr. by F. Brooks).

again, he knew that they were but phrases. Thus, as he noticed that Sun and Dawn are hidden together in the Darkness, he said that Asar (Osiris) and As (Isis) were linked in love in their mother's womb. Here, at first he knew he was speaking by way of mortal analogy; he probably subsequently forgot this fact, and regarded the utterance as the expression of a literal and highly mysterious truth. His power of measurement supplied him with the concept of God; he necessarily regarded the Divinity as his own shadow, dilated to a gigantic size. Man shouts, God thunders. The divisions of the external world, and of spheres of effort suggest different gods. The sun is distinct from the moon; therefore the sun-god is distinct from the moon-god. The peculiarities and specialities of different countries and climates produced variant phases of the common faith; but, although as different as the letters of the many existing alphabets, they are all based, like the latter, on an original unity. The widely differing forms at first suggest in each case distinct origins, but the variances are not fundamental. Thus, the difference between the beliefs of Scandinavia and of Egypt is merely that of local colouring. The hippopotamus could not be a god-form or constellation-figure in regions where the animal was unknown. Lastly, man was a borrower, imitator and adapter, not an absolute inventor; and his imitation, though not so obviously crude as that of his monkey friends, was yet infinitely more intense. Thus, his religious ritual was, in most instances, to a very considerable extent originally modelled on the daily phenomena and panorama of nature.

I am not writing upon the origin of civilization or

of religion, but merely upon the rise and earlier history of certain constellation-figures; and therefore in the foregoing brief general remarks, I only wish to indicate in outline the mass of material upon which the human mind had to work in its efforts in this particular direction. Dyads and triads naturally arose in idea from the consideration of such pairs as day and night, light and darkness, morn and eve, sun and moon, man and woman; or from threes, such as sun, moon and evening-star, father, mother and child, etc. Man further observed in nature and hence transferred to his own active cogitations, a principle which I have termed the Law of Reduplication. He noticed a constant repetition in the phenomena of the external world. Dawn followed dawn, sun succeeded sun day after day. He looked upon his fellow man, saw himself again, and learned that two was one repeated. He further noticed that this repetition was either exact or variant, *e.g.*, new but similar combinations of clouds; or, again, woman, *i.e.*, wife-man. And all reduplication was connected with intensity of continuance, of being, of wish, of effort. Thus it took the form of emphasis, of direct phonetic and linguistic repetition, of pictorial reduplication—as shown in cuneiform and other ideographs, and of purely mental reduplication, which latter applied to (1) personages, (2) general ideas, and (3) their embodiment in myth, legend and folklore. Now, to take a particular instance, the object which to us is not only infinitely the most important, but also by far the most remarkable, is the Sun. I need not refer here to the sun's place in mythology (Vide R. B. Jr., *E.* p. 27). The prominence of this is necessarily acknowledged by writers of every mythological school. But I com-

mence with the sun here because the numberless forms which it assumes in mythic fancy, under the influence of the anthropomorphic principle, are alike the best illustrations of the Law of Reduplication, and are also closely connected with the origin of the constellation-figures. The Sun hastens across heaven and earth, and rises from and disappears in the earth and sea; he therefore strides, runs, gallops, drives, sails, swims, flies (Cf. *Pégasos*), chases the dawn, the clouds, the moon, the stars, is born, grows up, loves, leaves, rejoins his beloved, shoots the arrow and hurls the spear, is an eye, a wheel, a shield, is wounded, thorn-pricked, poisoned, sick, leprous, blinded, toils, fights, burns, kills his friends and his enemies, dies, and is reborn in endless life. And these phases are but a few, a very few, of his personified activities. Thus, naturally, the Sun is personified and regarded as a Shepherd (Cf. Vol. I. 310, 312), a Warrior, an Archer, a Lance-holder, a Hunter, a Giant (Cf. *Ib.* p. 254), a Water-pourer, a Sailor, a Charioteer; or, again, as a Ram (Cf. *Ib.* 53), a Goat (Cf. *Ib.* 80, 218-19), a Horse, a Lion (Cf. *Ib.* 62-3), an Eagle (Cf. *Ib.* 45), or a Fish (Cf. *Ib.* 86-7). Such facts require no further proof here; they are merely mythological commonplaces. 'We may observe, by the way,' remarks Count Goblet D'Alviella, 'that the horse, and the cock, as well as the eagle, and the lion, are essentially solar animals' (*The Migration of Symbols*, p. 58). And he further notes that 'in the mythology of primitive nations the contest between the sky, or sun, and the clouds is frequently represented by a fight between an eagle and a serpent' (*Ib.* p. 17). Here we meet with the solar Snake-holder. The Lion, king of beasts, the Eagle, king of

birds, the Dolphin, king of fishes (Cf. Vol. I. 248), are all specially sacred to the solar hero, whose most familiar mythological opponent is Darkness, appearing either as Night, Storm-cloud or Eclipse, in size gigantic and in appearance chaotic. With this are closely connected Cold and Winter, and Autumn, the season when the light begins to fade quickly and the cold increases. As light and warmth are, on the whole, far more pleasant than darkness and cold, so the opponent of the solar hero takes a monstrous and horrid form and is portrayed as a Dragon, huge Serpent, Scorpion (Cf. Vol. I. 67 *et seq.*), etc. The Moon, again, is naturally connected with the Bull, Ox and Cow (Cf. *Ib.* 56, 227), and is certainly also most closely connected with the Hare (Cf. *Ib.* p. 97). These facts enable us to understand that the great majority of the primitive constellation-figures had a pre-constellational history; and were in fact forms and phases of thought familiar to the mind of early man before he had entered upon the task of stellar uranography. This is why he selected them for their present positions; for, as we have seen all along, and as even a cursory examination of the starry heavens will convince any reasonable person, the stars themselves, with certain exceptions which will be noticed, do not in their natural configuration resemble the forms in which they have been grouped, or where there may be any slight resemblance it is equally shared by a hundred other objects which have never been constellation-figures. Writers have often told us, speaking merely from the depths of their ignorance, how 'Chaldean shepherds' were wont to gaze upon the brilliant nocturnal sky, and to *imagine* that such and such stars resembled this or that figure.

But all this is merely the old effort to make capital out of nescience, and the stars are before our eyes to prove the contrary. Having already certain fixed ideas and figures in his mind, the constellation-framer, when he came to his task, applied his figures to the stars and the stars to his figures as harmoniously as possible. Thus, nearly each primitive constellation-figure is a reduplication of an idea connected with simpler natural phenomena, solar, lunar, or as the case may be. The solar Ram reappears in *Aries*, the lunar Bull in *Taurus*, and thus on; and such being the general concepts underlying most of the primitive constellations, we have next to notice the manner in which these very early mythological imaginings were practically applied to the stellar expanse.

## CHAPTER XVII.

### The Formation of the Primitive Constellations.

WE have lastly to observe, in some detail, the application of the foregoing ideas and principles to the actual configuration of the stellar host; a comparatively easy task, since we have now ascertained, on the one hand, the names of the principal Euphratean stars and constellations, and, on the other, the method and line of thought which practically obtained in the formation of star-groups. As of course, the eye of early man, like that of man to-day, when lifted to the glowing vault, fell first upon the brightest individual stars; and next noted their association with each other, especially in pairs, threes and sevens. As the ecliptic constituted the region of primary importance, and as the sun and moon, in their courses, had imperiously connected it with the numbers two and twelve, we will first consider the grouping of the ecliptic constellations; premising that the observation of single stars is, as of course, prior to their being grouped together in an imaginary whole, just as *e.g.*, in matters terrestrial, York existed before Yorkshire. If we find that a great number of the constellation-figures are solar reduplications, and if anyone should be inclined to regard such a fact as, in the abstract, improbable, let us illustrate the circumstance by an example taken from heraldry. The Sun did not monopolize the Signs to anything like the extent that



his famous emblem the Lion monopolized armorial bearings at one time. 'It may be a matter of some surprise,' says Planche, 'to learn that in the twelfth century but one beast is to be seen on the shields of any of the great Anglo-Norman nobility; that one being a Lion. The Earls of Arundel, Lincoln, Leicesters, Shrewsbury, Pembroke, Salisbury, and Hereford all bear Lions.' In the abstract, it was far more improbable that the whole of these persons should adopt this one emblem than that the sun, by far the most important object in nature, should, in his varied aspects, occupy so much of the thoughts of archaic man. I will next briefly take the primitive constellation-figures in order, and indicate, as nearly as may be, the principles which obtained in their several formations.

I. The *Ram*. The stars being regarded as 'a heavenly flock' (Vide Vol. I. 287), the star which opens the year is naturally their leader. When the year commenced in *Aries* the star *Hamal* necessarily had this position, and opened the year as the Ram-sun opened the day (Vide *Ib.* 53-4). Hence, the *Ram* is a solar reduplication. The stars which compose it have no actual resemblance to this animal; but the natural line of thought indicates the reason of the choice. Fig. IV. shows how the stars of the constellation were ultimately grouped in accordance with the animal shape; and this illustration applies practically to almost every constellation-figure, except to the very few in which there is a striking natural resemblance between the form portrayed and the actual arrangement of the stars. First we have the *Ram* as a single star, *Hamal* ( *$\alpha$  Arietis*); then a *Ram*-constellation, consisting of  *$\alpha$* ,  *$\beta$*  and  *$\gamma$  Arietis* (Vide *sup.*

p. 72); and, ultimately, when it is thought necessary that the constellation should be spread as far as possible over the ecliptic, we arrive at the figure of the Hipparcho-Ptolemaic *Aries*. At last, modern astronomy, for purposes of reference and description, divides the entire heaven between the constellations,

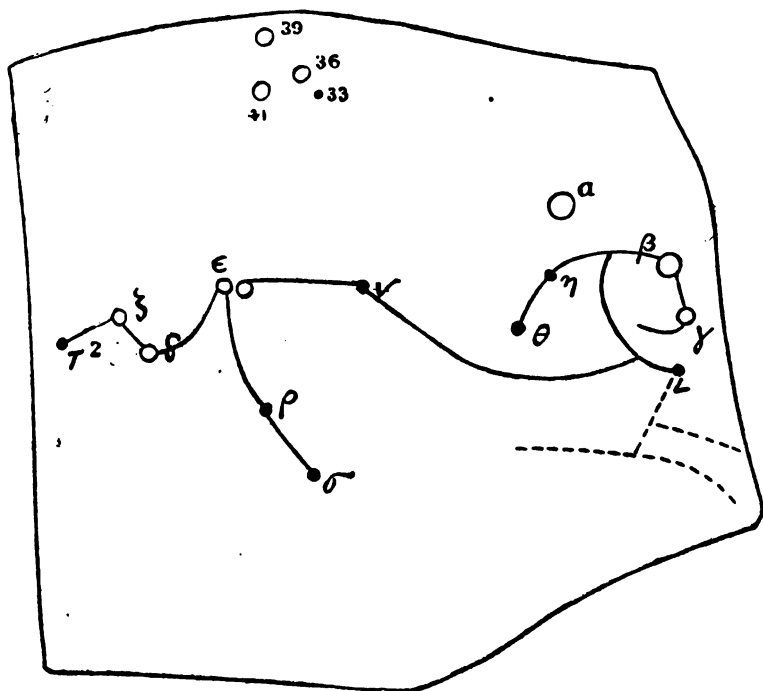


FIG. IV.—THE PTOLEMAIC ARIES.

including in the *Ram* various stars which form no part of its figure. Thus, we see, from first to last, the origin, progress and ultimate result of the idea connected with a primitive constellation; and, in going through the list, the reader will find exactly the same principles at work in almost every instance.

II. The *Bull*. Originally the first of the zodiacal

Signs, the *Bull* is a lunar reduplication (Vide Vol. I. 56-7). In this case the configuration of the stars aptly coincides with the lunar idea (Vide Fig. V.; Vol. I. 128-9); and the original constellation, prob-

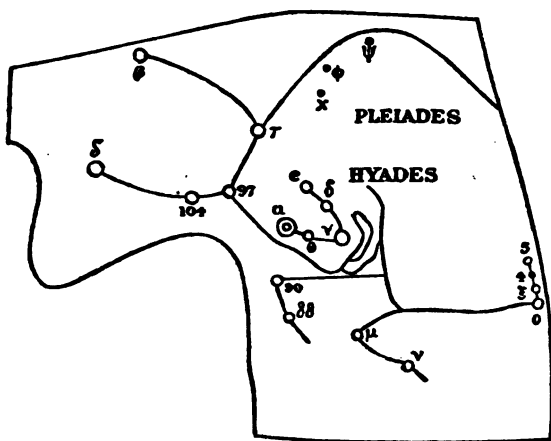


FIG. V.—THE PTOLEMAIC TAURUS.

ably consisting of the Hyades only, is naturally enlarged to its present proportions. As the *Bull* originally preceded the *Ram*, so Sin, the Moon-god, is at times described as the sire of Samas, the Sun-god, night preceding day. Fig. VI. well illustrates



FIG. VI.  
THE LUNAR BULL.  
(Hamath Incriptions, No. 5.)

the lunar Bull (Vide *Ib.* 227-8). The alternation of day and night apparently suggested that the constellation-figures of the Zodiac should be alternately drawn from diurnal and nocturnal sources. Hence it will be found that *Aries*, *Gemini*, *Leo*, *Ara* (now *Libra*), *Sagittarius* and *Aquarius* are in nature diurnal Signs; whilst *Taurus*, *Cancer*, *Virgo*, *Scorpio*, *Capricornus* and *Pisces* are in nature nocturnal Signs.

This fact, the reason of which must have been unknown for very many centuries, has been faithfully preserved by astrology down to the present time (Vide R. B. Jr., *Sem. Sec. XXVII.*; Cf. Bouché-Leclercq, *L'Astrol. Grecque*, 155 et seq.).

III. The *Twins*. On the above principle the third constellation-figure had to be drawn from a diurnal source. The two great stars *Castor* and *Pollux*, side by side, which alone formed the original constellation, at once suggested the original 'Twin Brethren,' Sun and Moon, only seen together by day. As one rises the other sets, a fact quaintly shown on the cylinders (Vide Fig. VII.; Vol. I. 58-9, 291-2). As in other cases, the constellation was in time extended, so as to cover the space between the end of the *Bull's* horns and the *Crab*.

IV. The *Crab*. Next suitably came a very dark portion of the ecliptic, which was assigned to the *Crab*, a variant of the *Scorpion* and *Tortoise* (Vide Vol. I. 60, 145, 209-11), and an emblem of Darkness, which seizes, swallows or, again, guards the light and the light-powers.

V. The *Lion*. The brilliant stars of the *Sickle* which succeed, and which are also connected with the hottest period of the year, were naturally and very suitably appropriated to the *Lion*, a reduplication of the leonine Sun (Vide Vol. I. 62-3). From the *Sickle* the constellation enlarged until it included *Denebola*.

VI. The *Virgin*. The succeeding Sign was bound



FIG. VII.—THE GREAT TWINS.  
(From a Cylinder.)

to be a nocturnal one, but the succeeding stars are bright, five of them  $\beta$ ,  $\eta$ ,  $\gamma$ ,  $\delta$  and  $\epsilon$  *Virginis* forming a lunar crescent. As in *Taurus* we have the Moon-god, so here we have the Moon-goddess; and, connecting, as is natural, the crescent with the upper part of her person, the brilliant star *Ear-of-corn* is consequently placed in her hand. In V. I have demonstrated that this was also a love-emblem, and have given many illustrations showing the goddess holding it



FIG. VIII.—VIRGO WITH SPICA.

(Vide Fig. VIII. Vide also Vol. I. 64-6, 227).

VII. The *Altar*. The stars of the immediately succeeding portion of the Zodiac are comparatively faint, but the Sign had to be a diurnal one. Hence, as the season of autumn had arrived, the feeble waning Sun was aptly re-duplicated in the dim stars of the circular *Altar*, grasped in the huge *Claws* of the *Scorpion* (Vide Fig. IX.). Sometimes the solar Circle or Altar is represented as a



FIG. IX.—SCORPION AND CIRCLE.

Lamp (Vide Fig. X. Vide also Vol. I. 67-71, 217).

VIII. The *Scorpion*. The succeeding Sign had to

be a nocturnal one; and, as in the case of the *Bull*, the stars lent themselves very readily to the formation of an appropriate figure, namely, the *Scorpion*, a familiar emblem of Darkness (Vide Fig. XI., Vol. I. 67-76).

IX. The *Archer*. The succeeding Sign had to be

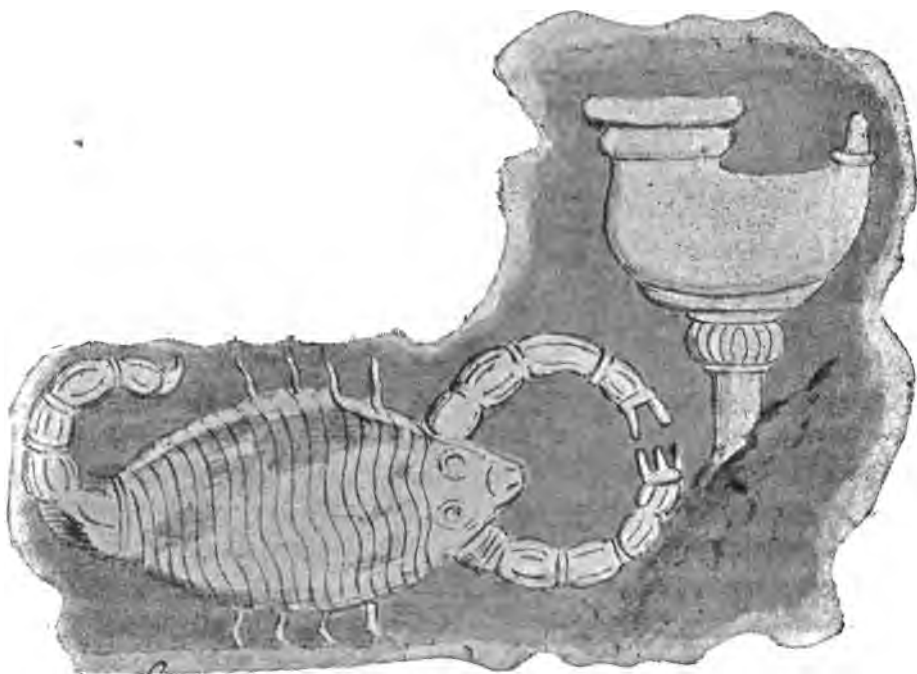


FIG. X.—SCORPION AND LAMP. (From a Boundary Stone.)

a diurnal one, and the configuration of the stars readily suggests a Bow, and hence an Archer, *Sagittarius* being a reduplication of the racing Archer-sun (Vide Fig. XII.; Vol. I. 77-9).

X. The *Goat*. We now reach the watery expanse and Region of Êa, where the weather also of the time of year suggests an aqueous reign. The Sign has to

be a diurnal one, the stars at this portion of the ecliptic are dim, and their natural arrangement is not connected with any specific animal figure. What the

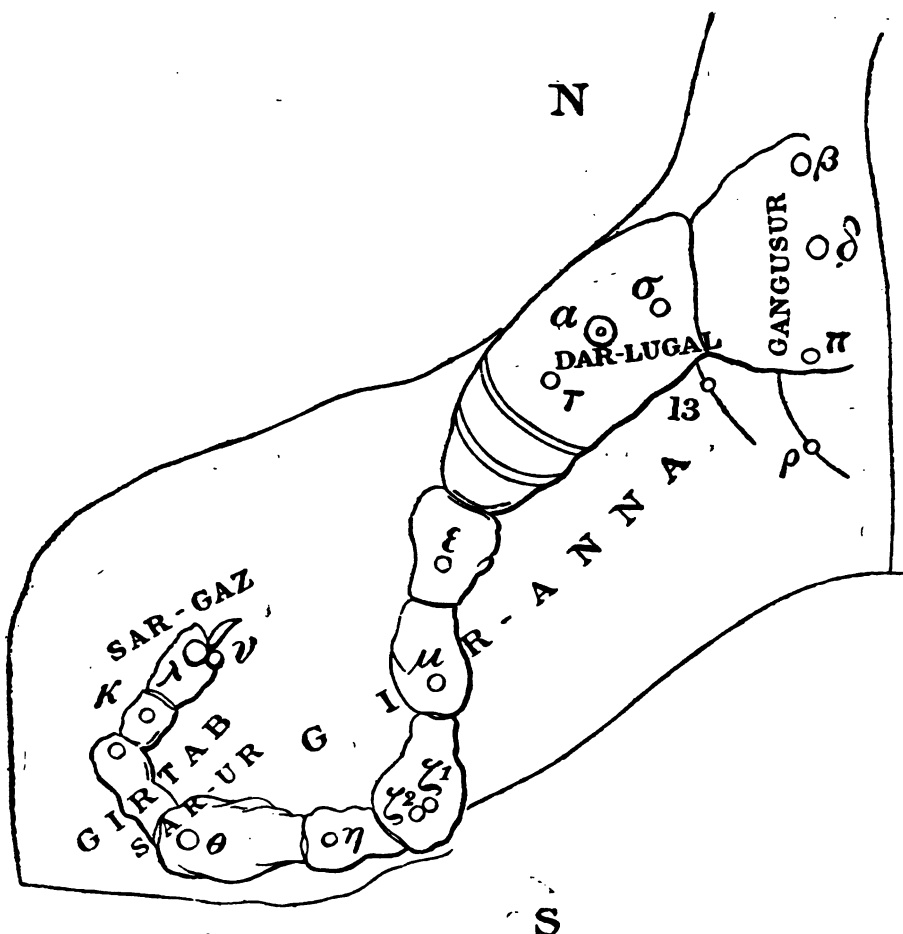


FIG. XI.—THE SCORPION.

season suggests is the youthful Sun of winter climbing out of the abyss of darkness, night and the deep; and as both the Goat and Fish were already solar emblems, they are naturally combined in the

form of the Goat-fish (Vide Fig. XIII.; Vol. I. 80-1).

XI. The *Water-pourer*. The next Sign, also belong-

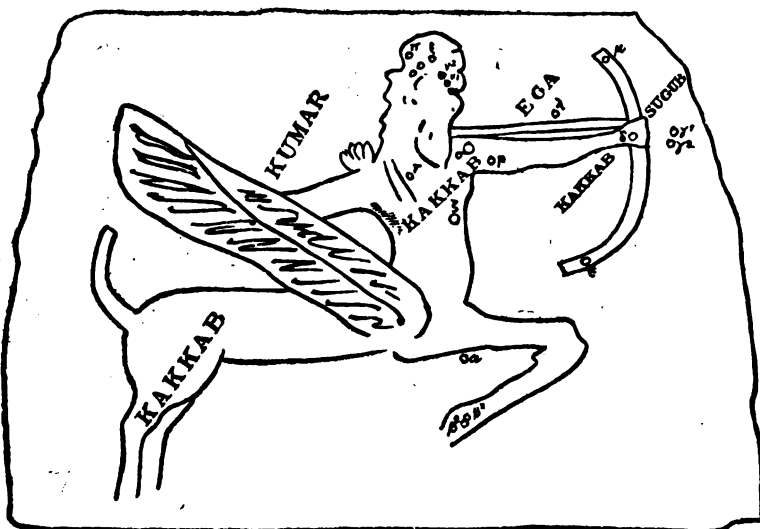


FIG. XII.—THE ARCHER. (From a Boundary Stone.)

ing specially to a rainy season and watery region, had to be a diurnal one; and hence became appropriated to the Rain-giving-sun, represented by his water-pouring Urn (Vide Vol. I. 84-5). Here nothing was suggested by the natural configuration of the stars.

XII. The *Fishes*, originally the *Fish*. This dark and nocturnal Sign

of the watery region, in which the actual arrangement of the stars suggests no particular form, was aptly allotted to the *Fish*, a reduplication of the



FIG. XIII.—THE EUPHRATEAN GOAT-FISH.



solar Fish, as hidden in the depths of ocean and the Under-world (Vide Vol. I. 86-8). Hence, on analysis, the zodiacal Signs present us with the Sun as Ram, Twin, Lion, Daily sacrificed and Dying, Archer, Rain-giving, Oceanic and Nocturnal; with the Moon, as male and female, Bull and Goddess; and with Darkness, morning and evening, in two variant emblems. Here we obtain an intelligible evolution of stellar imagery; we can see the reason why. The result was not the outcome of an arbitrary fancy, but the continued application of ideas which arose naturally, and almost necessarily, in the mind of early man.

XIII. The *Northern Constellation-figures*. Although our knowledge of the extra-zodiacal portion of the Euphratean celestial sphere is less than the acquaintance which we possess with the Zodiac, yet we know quite enough to see that exactly the same principles obtained in the formation of the extra-zodiacal constellation-figures. The Pole-star, as of course, stands alone as a sacred unit, whilst the seven prominent stars of the *Great Bear* form a *Chariot* naturally enough, and are reduplicated in the seven stars of the *Lesser Bear*. These two heavenly *Chariots* guard the Pole (Vide Vol. I. 268-9). The solar shepherd is reduplicated in *Arcturus-Boötes*, the stars of which easily adapt themselves to a human form, another reason of the choice being that *Arcturus* is the brightest star of the Northern Hemisphere (Vide Vol. I. 279-85). The contest of the Sun-god with Storm and Cloud is reduplicated in the figures of the *Kneeler*, the *Arrow*, and the three *Birds* (Vide Vol. I. 34-5, 132, 234-5), and if the reader will refer to the Map of the Northern Hemisphere (Vol. I. 119), he will see

how in these, and in various other, instances the natural configuration of the stars was adapted to portray the forms desired.<sup>1</sup> As the Dolphin is the head of fish (Vide Vol. I. 248), so the solar Dolphin (Vide *Ib.* 46-7) reappears amongst the constellations in a group of stars which stood alone between the *Arrow* and *Birds* on the one hand, and the figure of the solar sea *Horse* (Vide *Ib.* 48, 200-2), on the other. It is obvious that these forms, the stars adjusting themselves readily to the shape of a demi-horse, were depicted prior to that of the *Dolphin*, for which a small unformed group of stars was subsequently utilized. We have seen reason to believe that many of the stars near the Pole were specially called the *Flock* (Vide *sup.* p. 20); whilst certain other stellar groups, *Cassiopeia*, *Cepheus*, *Andromeda*, *Perseus* and *Auriga* were so combined as to represent human figures (Vide Map), which of course served for the figures of divinities, Euphratean and Phœnician. The *Triangle* (Vide Vol. I. 50-52) and the *Crown* (*Ib.* 32-3) are natural shapes, which nevertheless were intimately connected with the religion and mythology of the Constellation-framers. The idea of a snake-holding divinity (Vide *sup.* p. 224) is easily portrayed by the stars of *Serpentarius*, as is that of a huge *Serpent* by those of *Draco*; but, here, as in every other instance, a previous line of thought is illustrated. The Constellation-framer is not satisfied merely to see in *Serpentarius* a stellar

<sup>1</sup> The *Eagle* was also a solar figure (Vide *sup.* p. 224). The reason of this double aspect is partly the fact that the Sun, when flashing through stormy clouds, can be regarded (1) as fighting against them, or (2) as a Storm-sun and Storm-god, using them as his weapons.

picture of a man holding a snake. He already had in his mental religious idea the concept of a god holding a snake, either contending with it or, again, employing it peacefully; and to this thought he gave form and expression. Of the line of thought connected with the *Bears* (Vide Vol. I. 256 *et seq.*), and of certain northern constellation-figures in Phoenician idea, I have already fully spoken.

XIV. The *Southern Constellation-figures*. When the constellation-framer turned his gaze towards the stars of the Southern Hemisphere he would at once see in the splendid group of *Orion* (Vide Vol. I. 92-3; 253-6) a southern solar shepherd or hunter corresponding to *Boötes* in the north. And as the Euphratean solar hunter was accompanied by his dogs, so his stellar reduplication was represented as being accompanied by a pair of *Dogs* (Vide *Ib.* 275-9), the seven prominent stars of the *Greater Dog* easily grouping themselves into the figure of a dog *salient* or on its hind legs, an attitude which has always been retained in delineations of this constellation-figure (Vide Fig. XIV.). But, as stars were noticed ere constellations were formed, *Sirius* and *Procyon* were the two original Dog-stars. The constellation of the *Hare* (Vide *Ib.* 97-8) has not yet been found upon the monuments; but as the animal is a singularly widely spread lunar type, and as its stars are those immediately chased by the *Dogs*, it is probable that the *Hare* was a Euphratean constellation, and that the whole group is a stellar reduplication of the chase of the Moon by the Sun. As there is not the slightest resemblance between the stars of the *Hare* and the animal, the idea of a lunar hare being in the mind of the constellation-framer, he would arbitrarily apply

the stars to the figure or the figure to the stars. The solar Ship is so familiar a mythological subject that we should expect to meet a reduplication of it, especially in the land of the Deluge-story ; and therefore we are not surprised to find an *Argo* amongst the constellations, though of what stars it was originally



FIG. XIV.—THE DOG. (From a Boundary Stone.)

composed is uncertain (Vide Vol. I. 101-3). The Storm-and-darkness-monster, connected also with the vastness of the enringing serpentine Ocean found a natural heavenly location in the vast dark space beneath the Zodiac and under *Perseus* and *Andromeda*, occupied by the *Sea-monster* (Vide *Ib.* 89-91); and, in its second form, in the tremendous length of the *Water-snake* (Vide *Ib.* 104-6.). No reasonable

person, acquainted with the representations of the Great Snake on the monuments (Vide *sup.* p. 34) can well deny that the constellation-framer in arbitrarily (so far as natural shape is concerned) linking together stars from *Cancer* to *Libra* in the form of a serpent, was making a stellar reduplication of an idea already familiar to his mind ; whilst the Kretan coins and the legends referring to the great contest of the Sun-god with the *Crab* and the *Water-snake*, show how faithfully the myth and its stellar reduplication were propagated in the West (Vide Vol. I. 144-6). The two remarkable clusters of stars immediately north of the *Water-snake* and very closely connected with it, naturally received names, *Bowl* and *Crow*, which, as we have seen, were connected with the Tiâmat cycle of ideas and personages (Vide *Ib.* 106-9). As I have frequently had occasion to observe, nothing is more remarkable than the quite insignificant part played by pure invention in the progress of human thought. We meet with continuous borrowing and reduplication. Even Nature, as Emerson well says, 'hums her old tunes with innumerable variations.' And this feature is most strikingly evident in the case of the constellation-figures. Not only are the original types reduplications of prior ideas, but the leading figures, when once formed, are frequently simply reproduced in slightly variant phase. Thus, the *Southern Fish* (Vide *Ib.* 115-17), the *Altar* (Vide *Ib.* 67, 180, 216-18) and the *Centaur* owe nothing to the natural formation of the stars, but are merely reproductions of the original *Piscis* of the Zodiac, of the original *Altar* of the Zodiac, and of the *Archer* of the Zodiac. The stars near the *Centaur* (Vide *Ib.* 110-11) permitted the introduction of a

further figure, the *Wild-beast* (Vide *Ib.* 112), which, originally forming part of the constellation, showed the triumph of the Sun-god alike over the Beast of darkness and over his own solar Lion (Figs. XV., XVI.).

This, as already noticed (Vide *Ib.* 214), was an early feature in the art of Western Asia, and one which was carefully reproduced in Hellas. In the case of the *Stream* (Vide *Ib.* 95-9), the remaining primitive



FIG. XV.—THE CENTAUR AND THE WILD-BEAST.



FIG. XVI.—THE CENTAUR AND THE WILD-BEAST.

stars exactly carries out the idea; but it was by no accident that these particular stars were selected to depict *Éridanos*. On its bank stands the doomed and luckless Sun - god (=Orion), against whom the *Sea-monster* is advancing.

The solar hero is everlastingly victorious and defeated near the Ocean-stream; in a word he is Perseus-Tammuz.

Such, then, were the principles which obtained in the formation of the primitive constellations. Reli-

gious and mythological ideas, already long current and venerated, were stamped upon the sky as sacred and celestial forms. The natural arrangement of the stars was utilized as much as possible in connexion with certain instances, but had no wider influence than has onomatopoeia in the science of language (Vide *Ib.* 128). The same leading ideas were repeated in numerous cases, until at length the heavenly sphere was as fully completed as seemed necessary for practical purposes, it being reserved for modern science to map out the entire heavens, and thus to complete uranography. The system so formulated in the Euphratês Valley was accepted and adopted by Western Asia. The constellations of Israelite and Phœnician were those of Babylonian and Assyrian, even as Bêl reappeared as Baal and Istar as Ashtoreth. Whenever we find a Phœnician constellation-figure we see in it the exact prototype of the corresponding figure in the Greek sphere (Vide *sup.* p. 50). And here my present task ends. I claim to have demonstrated that the Euphratês Valley was the main source whence were derived the primitive constellations of the Greeks. I claim, further, to have shown the natural line of idea which produced the constellation-figures; and although the research of the future will doubtless greatly add to the mass of material available for the further elucidation of the subject, and will enable us to correct many errors in detail and to explain many circumstances and incidents now obscure and perplexing, yet I am not afraid that the principles maintained in this work and the general conclusions now arrived at, will be unable to stand the influx of more light from the East.

## ADDITIONAL NOTES.

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PAGE 208.—*The Gates of Sugi.*

The Tab. *Rm.* 100, unfortunately much mutilated, illustrates the importance of the constellation *Sugi* (*Sup.* pp. 114-18). Line 2 of the Fragment remaining reads, 'Cattle bring forth and flourish, fish' . . . In l. 3 *Sugi* is mentioned, and in l. 4 *Margidda* ('the Wain'), so that the Tab. is specially concerned with the *Chariot*-stars. Line 5 names 'the land of Êlâm,' but, owing to the *lacuna* in l. 4, what this reference was, does not appear. The Tab. continues:—

6. *Kakkab*                      *Su-gi*,              *kakkabâni-su*,              *bi-rit-su-nu*  
 'The constellation the *Chariot*,              its stars,              their conjunction  
*rabis*              *pêt-ât*              *sibirri*              *iua satti siati* [*imakaru.*]  
 greatly reveals itself: the crops in that year [(men) sell'].

As to the meaning of 'conjunction,' vide *sup.* p. 199.

7. *Kakkab Sugi, kakkabâni-su, minma satti nazuzu, sibirri ina satti siati imakaru.* 'The constellation the *Chariot*, its stars, during whatever year they are conspicuous, the crops in that year (men) sell.'

That is, *Sugi* is associated with fertility. This line also occurs in *K.* 2894, Ob. l. 16.

9. *Kakkab*                      *Su-gi*              *tarbatsa ipakhhkhir,-ma*              *bâbu-su*  
 'The constellation the *Chariot* a setting makes, and its gate  
*ana*              *sûtu*              *pêtû ina satti siati*              *mat*              *Akkadi.*  
 towards the south opens in that year (towards) the land of Akkad.'

10. '*Sugi* sets, and its gate towards the north opens in that year, (towards) the land of Subartu.'

11. '*Sugi* sets, and its gate towards the east opens in that year, (towards) the land of Êlâm.'

12. '*Sugi* sets, and its gate towards the west opens in that year, (towards) the land of Amurrû.'

Lines 14-17 read similarly that *Sugi* 'is fixed' (in its place),



and that 'its gate' opens towards the same four quarters. Subartu (Cf. *K.* 694, l. 9), otherwise Su-êdin or Sutû (Vide Delitzsch, *Paradies*, pp. 234-5), lay east of the Diglat (Tigris) and north of Êlâm, and stands for the North generally. Amurrû (Vide *sup.* p. 160) is literally 'Amorite'-land, = the West.

It is thus stated that what I may call 'the sweet influences' of *Sugi* towards plenty, were directed at different times through its gates to the lands of the Four Quarters. We here meet with an archaic instance of the idea of stellar gates, which afterwards became so familiar; especially in the case of '*Capricornus et Cancer . . . solis portas*' (Macrob. *Comment. in Som. Scip.* I. xii. 1). Other Classical stellar gates were 'Unam ad signum *Scorpionis*, alteram per limitem qui est inter *Leonem et Cancrum*; tertium esse inter *Aquarium et Pisces*' (Varro, ap. Servius, in *Georg.* i. 34).

We have seen (*Sup.* p. 40) that the great Goat-star, Sum. *Askar*, Ph. *Aiz*, Gk. *Aix*, Lat. *Capella*, which stands above *Sugi*, marked the new year at a time prior to B.C. 2540, when the Pleiad was specially connected with the vernal equinox (Vide Vol. I. 56-7, 156). We noticed further, that, according to archaic Chinese astronomy, which was Bab. in origin, the name for the Pleiad was written 'sun—open door,' and that there was a path, that of the ecliptic, between the Pleiades and the Hyades (*Ib.* p. 275). This, then, was the western gate of *Sugi*, open towards Amurrû. Thus, *Sugi* is specially connected with the glad fertility of spring.

But the great Goat-star is also in Bab. *Iqû* ('the Gate'-star. *Sup.* p. 208); for what is Babylôn herself but Ka-dingira ('the Gate-of-the-gods'), = Sem. Bab-ili. Hence, the path by *Askar-Iqû* to the heights of the North, where the pair of *Chariots* guard the sacred Pole, is the northern gate of *Sugi*, open in idea towards Subartu. And *Sugi*, as noticed (*Sup.* p. 208), is the *Mar-urbi* ('*Chariot-by-itself.*' Ak. *Urbi* = Sem. *Istênis*, vide Brünnow, *Class. List*, p. 457), as opposed to the other two *Chariots*, the *Mar-gidda* and \**Mar-turra*, which lie together.

The southern gate of *Sugi* is formed by the Ak. *Ka-sil* ('Opening-of-the-Gate'), Bab. *Kuzallu*, As. *Kusallu*, Ph. *Kesl*, with the Ph. meaning 'Strong' (Vide Star-map, Vol. I. 119), = *Orion* (Vide Hommel, ap. Muss-Arnolt, *Dict.* p. 415).

The eastern gate of *Sugi* is formed by *Castor* and *Pollux* on the north and *Procyon* on the south; and is similarly styled a gate of heaven in the archaic Chinese astronomy (Vide Lacouperie, *Western Origin*, p. 301). The ecliptic passes between these points, as between the Pleiades and Hyades. I am very far from understand-

ing the full significance of the Tab., but in these matters we must proceed by degrees. At every step in the investigation of matters Euphratean we meet with fresh evidence of how much the world has borrowed from the Land of the Two Rivers.

Line 18 of the Tab., unfortunately broken off at both ends, speaks of *Napis-tu Ummân-Manda* ('The life of the Tribal Hordes,' vide *sup.* p. 100), about whom we would fain know more. The same expression occurs in *W. A. I.* III. LX. 35.

Line 19 reads . . . 'and its gate towards the south opens in that year [(towards) Akkad'].

Lines 20-22 similarly connected the north-gate (whether of *Sugi* or not, I am not certain) with Subartu; the east-gate with Elâm, and the west-gate with Amurrû.

PAGE 224.—*The Solar-eagle and the Cloud-serpent.*

An excellent illustration of the above-quoted dictum of Count Goblet D'Alviella, is supplied by the Bab. story of the Eagle and the Serpent, which is partly contained in Tabs. *K.* 1547 and *K.* 2527, and has been translated by Mr. L. W. King. The Eagle determines to eat the young of the Serpent, and will not listen to one of his eaglets who, 'abounding in wisdom,' warns him against the evil deed, which is certain to provoke the vengeance of the Sun-god, lord of justice. The Eagle devours the young of the Serpent, and the latter complains to the Sun-god, who bids him hide himself in the belly of a dead ox, and seize the Eagle when he descends to eat the flesh:—

26. 'Into the midst when he has entered, do thou seize him by his wing, tear off his wings, his pinions, and his claws.

28. 'Pull him in pieces and cast him into a pit, a death from hunger and thirst let him die.' So said, so done. The eaglet in vain warns his sire against the trap, and the Eagle, when caught, vainly endeavours to propitiate the Serpent with a gift. The Serpent 'tore off his wings, his pinions (and) his talons, pulled him in pieces and cast him into a pit. A death from hunger and thirst he died.'

The Sun-god, as lord of justice, is of course quite distinct in idea from the solar photosphere, the Eagle of the story, who, having destroyed the little clouds (=the young of the Serpent), at even descends to the earth, and is there seized. His wings and talons (=rays) are torn off, and he is cast into the 'pit' of the Underworld. There is nothing in the natural habits of these creatures to explain the circumstances. The Serpent does not bite or poison

the Eagle, but acts towards him in a non-natural way ; but in a manner which the basis of the myth requires. Nor, again, did anyone sit down and invent this tale out of his own head. It was suggested to him by natural phenomena.

A *μῦθος παλαιός* such as this, passes, as Gubernatis has shown, from land to land, the animals (I use the word in a covering sense) being altered in accordance with the region. This very tale reappears in Archilochos, in the 7th century B.C. Unfortunately nearly all of it is lost, just as the Bab. account is by no means perfect ; but the portion of the Gk. version which remains, is sufficient to enable us to detect its parentage. It is contained in Frags. lxxxvi.-lxxxviii. of Bergk's edit., and has been translated by Mr. F. Brooks, from whose rendering I quote :—

‘This tale there is among men that a Fox and Eagle made once upon a time a league together.’

This feature does not appear in the Bab. version, as we have it, but was almost certainly contained in the original. The Serpent is described as the Eagle's ‘companion,’ as the clouds are the companions of the sun. The Eagle, having treacherously devoured the cubs of the Fox, retires to a ‘lofty crag,’ on which, he says, ‘I sit making light of thy warefare.’ The Fox then appeals to Zeus, exclaiming :—

‘Father Zeus, thine is the lordship of heaven, . . . and to thee the wrong-doing of beasts and its punishment is a care.’

The rest of the story is lost, but doubtless the Eagle, whose treachery the poet is comparing to that of which he alleges Lykambês to be guilty, came in for condign punishment. Zeus replaces Samas, as the just judge ; and the Fox is substituted for the Serpent.

# INDEX.

## I.—AUTHORS.

- Abdn Yast*, i. 322.  
 Achaïos, i. 147.  
 Achilleus Tatios, i. 6, 71, 260.  
 Aelianus, i. 46, 144.  
 Agathias, i. 317.  
 Aglaosthenês, i. 46, 153, 262.  
 Aischylos, i. 139-41, 176.  
 Albrúní, i. 6; ii. 179-80.  
 Aldrovandus, i. 106.  
 Alex. Polyhistôr, i. 141.  
 Alkaïos, i. 144.  
 Alkman, i. 143.  
*Alphonsine Tables*, i. 35, 284; ii. 21, 189.  
 Alraqqâ, ii. 174.  
 Amos, i. 256.  
 Anakreôn, i. 142.  
 Apollodôros, i. 35, 42, 136, 155, 216.  
 Appianus, i. 229.  
 Arátos, *passim*.  
 Archilochos, ii. 221.  
 Aristillos, i. 120, 342.  
 Aristotelês, i. 325.  
 Aristoxenos, i. 150.  
 Arktînos, i. 124, 159.  
 Arrianos, i. 316.  
 Athenaios, i. 153, 178, 241, 270-1, 351.  
 Aufrecht, i. 253.  
*Avesta*, i. 257, 276, 285.  
 Avienus, i. 6, 152, 217.  
  
 BABELON, i. 188.  
 Bachofen, i. 176, 261.  
 Bailly, F., i. 5, 94-5.  
 Basil, i. 286.  
 Bayer, i. 16.  
 Berard, i. 5, 8, 138, 154-5, 188, 201-2, 206, 221, 232, 263.  
 Bergk, i. 142-3.  
 Bêrâsas, i. 89, 107, 112, 317, 330-34, 351; ii. 2.  
 Bertin, i. 321, 332-3; ii. 60, 82.  
 Bezold, i. 5, 116, 288, 354; ii. 4, 9, 11.  
 Biot, i. 6.  
  
 Birch, S., i. 69.  
 Blake, J. F., i. 275; ii. 182.  
 Bode, i. 17.  
 Bosanquet, R. H. M., i. 287; ii. 5.  
 Boscawen, W. St. Chad, i. 177, 350; ii. 10.  
 Bouché-Leclercq, ii. 231.  
 Bruchmann, i. 357.  
 Brugmann, i. 3.  
 Brugsch, i. 103.  
 Brünnow, i. 266; ii. 8, 80-1, 109, 114, 130, 152, 160, 169, 171, 190, 200, 216.  
 Budenz, i. 96; ii. 71.  
*Bundahis*, i. 335.  
 Bunsen, i. 37, 140, 269; ii. 187.  
 Burnouf, i. 97; ii. 191.  
  
 CATULLUS, i. 13.  
 Censorinus, i. 6; ii. 128.  
 Cesnola, i. 5, 305-6.  
*Chaldaean Oracles*, i. 287.  
 Chaucer, ii. 67.  
 Cheyne, i. 273.  
 Chipiez, *vide* Perrot.  
 Chrêsmoi Syb., i. 6.  
 Chrysostom, i. 80.  
 Ohwolsohn, i. 73, 351; ii. 181.  
 Cicero, i. 15, 217.  
 Claudianus, i. 286.  
 Clem. Alex., i. 42, 281, 317, 354.  
 Clermont-Ganneau, i. 5.  
 Conder, C. R., i. 309.  
 Cornutus, i. 6.  
*Corp. Ins. Sem.*, i. 169.  
 Cox, Sir G. W., ii. 123, 191.  
 Cullimore, i. 163, 213; ii. cap. x. *passim*.  
 Cumont, i. 7; ii. 55.  
 Curtius, i. 208.  
  
 D'ALVIELLA, ii. 224, 245.  
 Damaskios, i. 89, 168-9, 352-3.  
*Daniel*, i. 36, 322.  
 Dante, ii. 67.  
 Daremberg, i. 7.

- Darmesteter, i. 7, 259, 317, 322.  
*Dead, Book of the*, i. 6, 68, 210, 279.  
 De Clercq, i. 7; ii. 45, 47.  
 De Harlez, i. 7.  
 Delambre, i. 148, 220, 281.  
 Delitzsch, i. 273; ii. 244.  
 De Morgan, i. 21.  
 De Sarzec, i. 201; ii. 47.  
*Deuteronomy*, i. 276; ii. 103.  
 De Vogtje, i. 5.  
 Diodôros, i. 103, 147, 216, 225-7, 318, 324, 326-7; ii. 2-4, 60-1.  
 Diogenés Laert., i. 123, 148, 150.  
 Diogenitês, i. 115.  
 Dowson, Jno., i. 335.  
 Duncker, i. 8, 202; ii. 19.  
 Dupuis, i. 6, 117; ii. 11, 20, 27.  
  
 ECKHEL, i. 161.  
 Edkins, i. 19.  
 Ely, Talfourd, i. 196.  
 Engelmann, i. 42.  
*Epic Cycle*, i. 242-3.  
 Epigenês, i. 333.  
 Epimenidês, i. 150, 159.  
 Epping, i. 5, 9, 68, 87, 336, 340, 347; ii. 30.  
 Eratosthenês, i. 218.  
 Eudêmos, i. 148.  
 Eudoxos, i. 5, 10, 27, 120-2, 146; ii. 143-4.  
 Euktêmon, i. 125; ii. 127, 137, 148.  
 Eumêlos, i. 124.  
 Euripidês, i. 132-5, 284.  
 Eusebios, i. 5, 141.  
 Evans, A. J., i. 298-300.  
*Exodus*, i. 254.  
 Ezekiel, i. 288.  
 Ezra, i. 254.  
  
 FARNELL, L. R., i. 130, 155.  
 Firtzabâdi, ii. 27, 200.  
 Flamsteed, i. 114; ii. 36.  
  
 GARDNER, Percy, i. 200-1.  
 Gemînos, i. 6, 12, 126, 139, 323; ii. 127, 136-7.  
*Genesis*, i. 64, 85, 89, 95, 140, 221, 226.  
 Gerhard, i. 37; ii. 53.  
 Germanicus, i. 6.  
 Gesenius, i. 5, 102, 162-7, 205, 234.  
 Gladstone, i. 291; ii. 90.  
 Glaser, i. 13.  
 Goldziher, ii. 83.  
 Grassmann, i. 258.  
 Grotius, i. 14.  
 Gruppe, i. 5, 49.  
 Gubernatis, i. 60, 62, 97, 219; ii. 246.  
 Guillemin, i. 91, 359; ii. 22.  
  
 HAHN, i. 97, 272.  
 Halévy, ii. 98.  
 Haliburton, i. 275.  
 Hammer, Jos. de, ii. 58.  
 Haug, i. 7, 75, 257-8, 317.  
 Hayman, H., i. 291.  
 Head, B. V., i. 168, 174-5, 201, 204-6, 208-9.  
 Hêgêsias, i. 115.  
 Hehn, i. 29.  
 Hekataios, i. 144-5.  
 Hellâdios, i. 188.  
 Hellânikos, i. 146.  
 Hermippos, i. 276.  
 Hêrodotos, i. 39, 95, 123, 148-9, 192-3, 197, 205, 212, 223, 225-6, 303, 316, 318, 326; ii. 22, 181.  
 Hêsioid, i. 140, 153-8, 200; ii. 71, 126.  
 Hêsychios, i. 6, 76, 84, 141, 157, 219, 221, 224, 232, 269, 273, 286, 322, 344-7, 349-52, 354.  
 Hevilius, i. 17.  
 Hewitt, J. F., ii. 61.  
 Hilprecht, i. 7.  
 Hipparchos, i. 12, 20-118, 269, 280-1, 324, 328-9; ii. 23, 143-4, 176.  
 Hogarth, D. G., i. 307, 317, 319-20.  
 Homer, i. 29, 32, 40-2, 141, 144, 222, 224, 226, 242-93; ii. 104, 126.  
*Homeric Hymns*, i. 46, 243.  
 Hommel, i. 5, 18, 48, 52, 84, 225-6, 267, 273, 288, 345, 357; ii. 62, 65, 75, 77, 91, 98, 100-1, 106-9, 111-12, 114-16, 120, 161, 167-8.  
 Horace, i. 59, 220; ii. 124.  
 Hosea, i. 261; ii. 158.  
 Houghton, W., i. 37, 259; ii. 71.  
 Hyde, i. 25; ii. 20.  
 Hyginus, i. 13, 30, 46, 102, 107, 115, 135, 217, 272, 279; ii. 91, 149.  
  
 IAMBlichos, i. 351, 354.  
 Ideler, i. 6, 218, 276, 346.  
 Imhoof-Blumer, i. 265, 301; ii. 55.  
 Isaiah, i. 259; ii. 191.  
  
 JENSEN, i. 5, 109, 210, 266, 288, 309, 345; ii. 69, 98, 110-11, 118-20, 155, 169, 171-2, 184, 189.  
*Job*, i. 30, 246, 256; ii. 155.  
*Joshua*, i. 205.  
 Jowett, i. 123.  
*Judges*, i. 229.  
 Julius Firmicus, i. 341.  
 Juvenal, i. 247.  
  
 KALLIMACHOS, i. 13, 148.  
 Kallisthenês, i. 328.  
*Katasterismoi*, i. 6, 30, 32, 46, 54, 97, 110, 115, 135, 150, 153.

- Kazwini, i. 339.  
 Keller, i. 262, 265, 301.  
 Kenrick, i. 5.  
 King, C. W., i. 6.  
 King, L. W., i. 358 ; ii. 135, 184.  
 1 *Kings*, i. 230, 254.  
 2 *Kings*, i. 90, 214, 225 ; ii. 73, 193.  
 Kingsmill, T. G., i. 105 ; ii. 64.  
 Kleostratos, i. 120, 124, 129-30.  
 Knobel, E. B., i. 6, 73, 342 ; ii. 129.  
 Konôn, i. 12.  
 Korinna, i. 144, 205, 255.  
 Kritodêmos, i. 334.  
 Ktésias, i. 115, 226.  
  
 LACOUPERIE, i. 6, 18, 73 ; ii. 65, 67, 75.  
 Lajard, i. 6, 97, 110, 163, 214, 217, 227, 292, 297, 306 ; ii. cap. x. *passim*.  
 Lang, A., i. 7, 294-5.  
 Lauth, i. 245.  
 Leake, i. 145, 176, 193, 207.  
 Lenormant, F., i. 5, 40, 49, 140, 149, 155, 188, 277, 344, 354 ; ii. 40, 70, 196.  
 Letronne, i. 6.  
 Lewis, Sir G. C., i. 6, 11, 13, 122, 150, 279-80, 326 ; ii. 140.  
 Liechtenstein, i. 73.  
 Lockyer, Sir N., i. 6, 366 ; ii. 69, 124.  
 Loukianos, i. 84, 115, 165, 224-5.  
 Lydus, i. 6, 354.  
 Lykophrôn, i. 254.  
  
 MACROBIUS, i. 62-3, 225, 356 ; ii. 244.  
 Manilius, i. 6, 115, 217, 337.  
 Mariette, i. 143.  
 Mart. Capella, i. 6.  
 Maspero, i. 6, 19, 256 ; ii. 31, 39, 103-4.  
 Max. Tyrius, i. 6, 51.  
 Menant, i. 6, 220.  
 Merry, W. W., i. 253, 280.  
 Metôn, i. 125.  
 Micyllus, i. 280.  
 Mills, L. H., i. 7.  
 Milton, i. 126.  
*Minokhired*, i. 268.  
 Minsheu, i. 16.  
 Mnaseas, i. 356.  
 Montucla, i. 23, 342.  
 Moses, Kho., i. 226.  
 Mousaios, i. 143, 159.  
 Movers, i. 5, 40, 308 ; ii. 187.  
 Müller, K. O., i. 6, 11, 13, 15, 126-32, 151-3, 197, 255.  
 Müller, Max, i. 7, 256-9 ; ii. 62, 206.  
  
 Muss-Arnolt, i. 346 ; ii. 14, 22, 112, 184.  
 Myrô, i. 143, 271.  
  
 NAVILLE, i. 53.  
 Newton, Sir I., i. 124.  
 Nonnos, i. 6, 36.  
  
 OINOPIDÊS, i. 120, 124.  
 Olympiodôros, i. 227.  
 O'Neill, i. 268.  
 Oppert, i. 5, 330, 337, 345.  
 Ottley, W. Y., i. 227.  
 Ovid, i. 54, 220, 247.  
  
 PALEY, F., i. 156, 250, 305.  
 Panyasis, i. 151.  
 Parmenidês, i. 150.  
 Pausanias, *passim*.  
 Peisandros, i. 150-1, 234.  
 Penrose, F. C., i. 6, 336.  
 Perrot, i. 6, 51, 101, 141, 163-5, 167, 174, 305-6 ; ii. 31, 37, 39.  
 Petavius, i. 21, 126.  
 Pherekydês Ath., i. 148.  
 Pherekydês Sy., i. 5, 354.  
 Philôn, i. 49, 140, 149.  
 Philostratos, i. 51.  
 Phôkos, i. 148.  
 Phôtios, i. 226.  
 Pinches, i. 9, 46, 78, 344, 348 ; ii. 10, 13, 27, 83, 100, 117, 121, 150, 202, 218.  
 Pindaros, i. 143.  
 Pisinos, i. 151.  
 Planche, ii. 228.  
 Platôn, i. 121-3 ; ii. 141.  
 Plinius, i. 12-13, 16, 21, 23, 32, 124, 147, 229, 280-1, 328, 331, 333-4.  
 Ploutarchos, i. 25, 208, 231, 276, 301, 318-9, 331, 342 ; ii. 121.  
 Porphyrios, i. 262.  
 Pott, i. 332.  
 Procter, i. 14, 24, 339.  
*Proverbs*, i. 261 ; ii. 196.  
*Psalms*, i. 269 ; ii. 157.  
 Psellos, ii. 181.  
*Pseudo-Or. Hy.*, i. 227.  
 Ptolemy, i. 5, 20-118, 281, 286, 329, 337, 342 ; ii. 123-4, 192.  
 Pythagoras, i. 120, 150.  
  
*Qurân*, i. 18.  
  
 RABELAIS, i. 41.  
 Ramsay, i. 307.  
*Ram Yast*, i. 322.  
 Rawlinson, G., i. 5, 101, 323, 325-6, 329 ; ii. 140.  
 Renan, i. 5, 262 ; ii. 180-1.  
 Renouf, Sir P., i. 6, 19, 68.

Ridgeway, i. 312-13.  
*Rig-Veda*, i. 6, 53, 219.  
 Robert, C., i. 6, 102, 158, 160.  
 Roscher, i. 7, 34, 227, 304-5.  
 Ruskin, i. 34, 63, 178, 215, 265, 276.

SALIO, i. 7.  
 1 *Samuel*, i. 285.  
 2 *Samuel*, i. 225, 261.  
 Sanchouniathôn, i. 30, 39, 140, 189,  
 225, 227, 231.  
 Sapphô, 142-3.  
 Sayana, i. 258.  
 Sayce, *passim*.  
 Schlegel, i. 19.  
 Schjellerup, ii. 123.  
 Schliemann, i. 97, 107, 209, 295-8.  
 Schlottmann, ii. 158.  
*Scholia*, i. 30, 33, 62, 110, 147-8, 166,  
 169, 177.  
 Schroeder, i. 40.  
 Seneca, i. 331 ; ii. 124.  
 Servius, i. 51, 68, 147 ; ii. 140.  
 Shakspeare, i. 80.  
*Shdyast Lâ-Shdyast*, i. 75.  
 Sherburne, ii. 36, 126-7.  
 Simmias, i. 143.  
 Simonides (Keës), i. 143.  
 Simplikios, i. 334.  
 Simpson, W., i. 74.  
 Smith, Geo., i. 90, 104, 108,  
 111-12, 141, 180 ; ii. 195.  
 Smyth, W. H., i. 285, 339 ; ii. 20,  
 27, 124, 200.  
 Solinus, i. 189.  
 Sophoklës, i. 135-9.  
 Soudas, i. 6, 323.  
 Spano, ii. 50.  
 Spiegel, i. 7.  
 Spon, i. 164.  
*Standard*, the, ii. 176-9.  
 Stanley, Thos., i. 73.  
 Steingass, i. 259.  
 Steph. Byzant, i. 219, 345.  
 Stesichoros, i. 144.  
 Stésimbrotos, i. 193.  
 Stobaios, i. 331.  
 Strabo, i. 13, 118, 136-7, 197, 205,  
 226, 250-1, 314, 316, 318-20.

Strassmaier, i. 118 ; ii. 30.  
 Stucken, i. 9.  
 Sturz, i. 5.  
 Svoronos, i. 7, 152, 164, 208, 265,  
 298.  
 Synkellos, i. 329.

TACITUS, i. 51.  
 Taylor, Isaac, i. 138.  
 Taylor, Jeremy, i. 53.  
 Tennyson, i. 150.  
 Teukros Bab., ii. 180-1.  
 Thalês, i. 27, 120, 148-9.  
 Theognis, i. 143.  
 Theôn, i. 13, 136.  
 Thiele, i. 9.  
 Thompson, D'Arcy, i. 7, 141, 162,  
 248, 265, 271, 275, 303, 312-13.  
 Tizini, i. 339.  
 Tobit, i. 227.  
 Tylor, i. 309.  
 Tzetzês, i. 254.

ULUGH BEIGH, i. 20, 23, 25, 35.

VÁMBÉRY, i. 91, 274, 347 ; ii. 156,  
 199.  
 Varro, ii. 244.  
 Vergil, i. 57, 106, 220, 226, 274.  
 Vitruvius, i. 282, 331.

WEBER, Albrecht, i. 18.  
 Wellhausen, ii. 100-1.  
 West, E. W., i. 7, 75.  
 Wharton, E. R., i. 35, 276.  
 Whitney, i. 6.  
 Wilkinson, Sir G., ii. 128, 181.  
 Williams, Jno., i. 18.  
 Wilson, H. H., i. 258.  
 Wright, Wm., i. 167, 307-8.  
 Wroth, W., i. 145, 177.

XANTHOS, i. 226.  
 Xenophanês, i. 148.

ZACHARIAH, i. 231.  
 Zephaniah, i. 90 ; ii. 193.  
 Zonaras, i. 37.

## II.—STELLAR.

### 1. SUMERO-AKKADIAN.

ABNAM (*Stellæ Virginis*), ii. 16, 27.  
 Abnam (*Betelgeuse*), ii. 169-70.  
 \*Akanna (*Αγδννα*), i. 269.  
 Akhnâ, i. 358-9.  
 Alam, ii. 156.  
 Alla, i. 360 ; ii. 109.

Allab, i. 360 ; ii. 15, 16, 115-16, 122,  
 160.  
 Ama, ii. 23.  
 Ankiames, ii. 163, 170-1.  
 Ansu-kurra, ii. 22, 84-5.  
 Autasurra, ii. 23, 189-91.

Anugé, ii. 174-5.  
 Apin, ii. 67-8.  
 Arítum (Sem. ?), ii. 153, 155-6.  
 Askar, i. 42, 220, 222, 358; ii. 97.  
 Azâga-siqqa, ii. 183-4.  
 Azâgi-turda, ii. 184.  
 BAN, ii. 129-31, 138.  
 Batga (*Mars*), i. 348.  
 Batgakas (*Via Lactea*), ii. 215.  
 Bildara, ii. 109.  
 Bir (*Mars*), ii. 160.  
 Bir (*Aldebaran*), ii. 160.  
 Birva (*Antares* ?), ii. 160.  
 Bisbis, i. 90.  
 Bisgal, ii. 23-4.  
 DAB-LUGAL, i. 75; ii. 88.  
 Dilbat (*Δελφάρ*), i. 88, 93, 346; ii. 96, 153-4, 162, 164-5.  
 Dilgan, i. 222, 358-9; ii. 97, 136, 152, 159, 217.  
 Dilnu, ii. 153-4.  
 Diluri, ii. 183.  
 Dir, i. 346.  
 Dugga-gilgatil, ii. 185-7.  
 Dunghaduddu, i. 345; ii. 155.  
 Dur, i. 87.  
 Durki, ii. 16.  
 Dusia, ii. 217.  
 Dûzi, i. 92; ii. 23.  
 EGA, i. 78; ii. 194.  
 Entenamasluy, i. 69; ii. 86-7, 97, 111-12, 118-19, 167.  
 Esbar-anki, ii. 186-7.  
 GAL, ii. 216.  
 Gallamta-uddûa, i. 82; ii. 72.  
 Gam (*Sickle*), i. 16, 360; ii. 107-8.  
 Gam (*Scimitar*), i. 54; ii. 70-2, 97, 107-8.  
 Gar, i. 359; ii. 18, 63.  
 Gig, i. 348.  
 Gil, ii. 129.  
 Ginna, i. 346.  
 Giranna, i. 72; ii. 16, 158.  
 Girtab, i. 70, 72-6; ii. 16, 90-1, 131, 153.  
 Gisbar, i. 360; ii. 79-80.  
 Gisganguhur, ii. 87-8.  
 Gis-Li-e, ii. 108.  
 Giszalibri-giski, ii. 186-7.  
 Gubbara, ii. 81.  
 Gudêlm, i. 110; ii. 17, 191-3.  
 Gudibir, i. 346.  
 Gula, i. 84-5; ii. 16.  
 Gusirabba, i. 116; ii. 93.  
 Gusirkeada, ii. 77-8, 96.  
 Gusaia, ii. 16, 201.  
 Gutanna, i. 57; ii. 16.

Gutdûa, i. 358.  
 Guttav (Gud), i. 82, 85, 93.  
 HID-ILI-NINGIRSU, ii. 23.  
 IDKHU (*Aquila*), i. 45; ii. 17, 130, 175, 195-9.  
 Idkhu (*Altair*), i. 45, 111-12, 123, 125, 197.  
 Idkhu (*Sirius*), ii. 173-4.  
 Imdugudkhu, i. 108; ii. 17, 168.  
 Imina-bi, i. 358.  
 Iskhara, ii. 91, 153.  
 Izsi, ii. 109.  
 KAKBAN, ii. 120.  
 Kaksisa, i. 358, 360; ii. 98, 110, 119-31, 138.  
 Kalikku, i. 356; ii. 200.  
 Kas, i. 58.  
 Kaskhiszu (*Ἀχιλλεῖος*), i. 356; ii. 217.  
 Kasmîlu (*Κασμῖλος*), i. 356; ii. 217.  
 Kassa (*Ἀχιλλεῖος*), i. 356; ii. 217.  
 Kassêba, ii. 19.  
 Kassikisu (*Ἀχιλλεῖος*), i. 356; ii. 217.  
 Katsir-ninâkê, ii. 108.  
 Kha (*Piscis*), i. 358; ii. 159.  
 Kha (*Delphin*), ii. 130-1.  
 Kha (*Piscis Aust.*), ii. 174-5.  
 Kha-urud, ii. 217.  
 Khigallâ, ii. 75.  
 Khisê, i. 65; ii. 130, 161.  
 Khul, i. 347.  
 Khu-sêmakh, ii. 160-1.  
 Khu-sibain, ii. 107.  
 Khu-sin, ii. 107.  
 Khu-zaba, ii. 148.  
 Kinmi, ii. 2.  
 Kisalbat-ala, ii. 5-9.  
 Kua, ii. 81.  
 Kuê, ii. 16.  
 Kumar (*Κέμμορ*), i. 90; ii. 17.  
 LAMAS, ii. 82.  
 Ligbat, i. 112; ii. 5-7, 17, 91.  
 Lik, ii. 17.  
 Likbarra, ii. 68-70.  
 Likmakh, i. 360; ii. 16, 83, 131, 167.  
 Likudu, i. 277.  
 Lubat, i. 70; ii. 96.  
 Lubat-gudibir, i. 343.  
 Lubat-sakus, i. 346; ii. 65.  
 Lugal (*Regulus*), i. 62; ii. 119, 122, 160, 167.  
 Lugal (*Betelgeuse*), ii. 74-5.  
 Lugal (*Antares*), ii. 88, 175.  
 Lugal (*Hercules*), ii. 10-11.  
 Lugal-nerra, i. 346.



- \*Lulim-makh, ii. 169.  
 Lulim (*Aries*), i. 54; ii. 138.  
 Lulim (*Hamal*), i. 54; ii. 145, 169.  
 Lulim (*Stellae Virginis*), ii. 65, 85.  
 Lulla, i. 380; ii. 160.  
 Lunit, ii. 66, 97.  
 Lut-Tsirna, i. 107; ii. 17.
- MAGANDA-ANNA, i. 102; ii. 17, 19.  
 Mâkhar, ii. 93-4.  
 Manma, i. 73, 347.  
 Mar, i. 358.  
 Margidda, i. 267; ii. 17, 21, 136, 150, 186.  
 \*Marturra, i. 269; ii. 21.  
 Marurbi, ii. 208.  
 Mastabba-galgal (Pleiad and *Aldebaran*), ii. 72-3.  
 Mastabba-galgal (*Castor and Pollux*), i. 59, 359; ii. 16, 160.  
 Mastabba-turtur ( $\lambda$ ,  $\phi'$  and  $\phi^2$  *Oriónis*), ii. 74.  
 Mastabba-turtur (*Asellus bor. et aust.*), ii. 63, 139.  
 Mi, i. 346.  
 Mul, i. 358-9; ii. 131, 138, 145, 156, 168.  
 Mul-babar (*Μολοβδβap*), i. 347.  
 M(W)ulmosarra, i. 267; ii. 79-80, 85, 108, 138.  
 Mulubat, ii. 50, 89.  
 Mulu-izi, ii. 85.  
 Muna-kha, i. 89, 219; ii. 16, 93.
- NAGAR-ASURRA, i. 60, 360; ii. 15, 159.  
 Nam-makh, i. 358; ii. 169, 175.  
 Nergub-Gudêlim, ii. 191.  
 Nergub-Zamama, ii. 194, 197.  
 Nerzak-Zamama, ii. 195.  
 Nidub, i. 70; ii. 16, 140, 168.  
 Ningirsu, i. 93; ii. 23, 97.  
 Ninmakh, ii. 160.  
 Ninpes, ii. 215.  
 Ninsar, ii. 83-4, 139.  
 Ninsianna, i. 269, 346.  
 Numea, i. 73.  
 Nunki (Nunpê), i. 116; ii. 93, 157, 172.  
 Nutsirda, ii. 21, 89, 96.
- PALDARA, ii. 218.  
 Pallik(ur)a, ii. 17, 76, 96.  
 Papilsak, i. 78-9; ii. 16, 111.  
 Papsukala, ii. 133-4, 168.  
 Pur-êdin, i. 96; ii. 23, 96.
- RADITARTAKHU, i. 85, 234; ii. 17, 148.
- S.-A. names, ii. 24-5, 206-14, 215-18.
- Sagmegar, i. 345; ii. 155, 164, 166.  
 Sakh, ii. 84.  
 Sak, ii. 159.  
 Saksadi, ii. 200.  
 Sakus, i. 343.  
 Sakus-utu, i. 346.  
 Sakvisa (*Σειξέρ*), i. 345; ii. 95.  
 Samelâ, ii. 188.  
 Sargaz, ii. 90, 140, 174.  
 Sarnerra, i. 82.  
 Sarur, ii. 90-1, 140, 174.  
 \*Satilla (*Σάτιλλα*), i. 273-4.  
 Sêma, ii. 211.  
 Sibi, ii. 22, 115.  
 Sibzianna (*Arcturus*), i. 287, 312; ii. 17, 132-9.  
 Sibzianna (*Orion*), i. 288; ii. 16, 23, 182, 187-8, 166.  
 Siladakhabi, ii. 11-12.  
 Simul, i. 54.  
 Simut, i. 73, 348.  
 Subat, ii. 174-5.  
 Sugi, ii. 110-11, 138, 152, 160, 243-5.  
 Sugub-Gudêlim, ii. 167, 191.  
 Sugub-Udgudâa, i. 78; ii. 194.  
 Sulpa-uddu, i. 343; ii. 139.  
 Supa (*Castor and Pollux*), ii. 76-7, 98, 114-18, 131.  
 Supa (*Spica*), ii. 167.  
 Sutul, i. 81.  
 Suzak-Gudêlim, ii. 191.
- TÊ, i. 57, 274; ii. 16, 145, 156.  
 Têtê, i. 57; ii. 73.  
 Tiksi-stara, 106-110.  
 Tiranna, i. 264, 269; ii. 183-6.  
 Tsir (*Caput Hydrae*), i. 106, 360; ii. 108-9, 131.  
 Tsir (*Serpens*), 89-90.  
 Tsir-gal, 361.  
 Turusmal-makh, ii. 79.
- UALUZUN, ii. 20.  
 Udgudâa, i. 78; ii. 5-7, 96, 111.  
 Ugaga-Khu, i. 109; ii. 171-3.  
 Ulanna, ii. 218.  
 Ul-mi, ii. 134.  
 Ur-gula, i. 62; vide Likmakh.  
 Ur-negub-Udgudâa, ii. 194.  
 Urragal, ii. 83-4, 139.  
 Urud, ii. 217.  
 Utu-altar, i. 345; ii. 155.  
 Uz (*Capricorn*), i. 81; ii. 159, 195, 198-9.  
 Uz (*Capella*), ii. 98.  
 Uz (*Stellae Virginis*), ii. 167.  
 Uz-makh (*Polaris*), ii. 184.
- ZAKUR, ii. 217.  
 Zalbat, i. 72-3, 82, 343; ii. 7, 96, 160.

Zamama, ii. 194-9.  
Ziba-anna, ii. 16, 140.  
Zibanna, i. 346; ii. 140.

Zibzik, i. 88.  
Zur, ii. 215.  
Zurma, ii. 215.

2. SEMITIC.

ADĀMĀRH (*Andromeda*), i. 8, 49-50; ii. 117.  
Āgaru, i. 54; ii. 14, 16.  
Āgû, i. 78; ii. 129.  
Ailuv, i. 54.  
Aish, i. 119, 273.  
Akhîr-al-nahr (*Achernar*), i. 95.  
Akhû, ii. 68.  
Al-Anharân, ii. 27.  
Alap-samê, i. 57; ii. 14, 145.  
Al-Āuwa, i. 288; ii. 27.  
Al-Ayyâq (*Alaioc*), i. 221.  
Al-Bakkâr (*Beguius*), i. 284.  
Al-Dalîm, i. 94.  
Al-Debarân (*Aldebaran*), i. 57, 149, 338; ii. 73, 145.  
Al-Ferd (*Alphard*), ii. 79, 131.  
Al-Fer-Kadain, ii. 116, 188.  
Al-Ghûl (*Algol*), i. 348; ii. 22-3, 115.  
Al-Jady (*Algedi*), i. 81.  
Al-Kalurops (*Inkalurus*), i. 284.  
Al-Midschmara, i. 217.  
Al-Nâtih (*Nath*), ii. 54, 118.  
Al-Nesr-al-Wâki (*Vega*), i. 35.  
Al-Râi, ii. 20.  
Al-Rakûbat (*Alrucaba*), ii. 188-9.  
Al-Râmih, i. 285.  
Al-Simâk (*Azimech*), i. 285.  
Al-Tair (*Altair*), i. 45; ii. 125, 128-9.  
Anu (*Mars*), i. 348; ii. 7.  
Anunîtum (*Venus*), ii. 169.  
Anunîtum, (λ, μ *Sag.*) ii. 92, 169.  
Arû-rabû, i. 62; ii. 15.

BANĀT-AN-ĀS (*Benetnasch*), i. 273.  
Barsav (*Perseus*), i. 40; ii. 71.  
Bêlit, ii. 86.  
Bibbu, i. 346.

DAPINU, ii. 155.  
Dayan-samê, i. 269; ii. 179.  
Dûzu, ii. 26.  
Dzeneb-al-Asad (*Denebola*), i. 340; ii. 83.  
Dzeneb-al-Jady (*Deneb Algedi*), i. 81.  
Dzeneb (*Deneb*), ii. 66.

ENZU (*Capricorn*), i. 81; ii. 15.  
Erek-hayîm (*Ἡρίων*), i. 119, 195, 284.  
Erîtu, ii. 22-3.  
Erû, ii. 173, 217.  
Erû-êdinû (*Ἡρίωνος*), ii. 23, 132.  
Eschmûn, i. 43, 119, 168-9.  
Etsên-tsiri, ii. 66, 86.

FAMM-AL-HŪT (*Fomalhaut*), i. 117; ii. 12.

HAMAL, i. 22, 54, 337; ii. 40, 145, 228.  
Harekhal (*Ἡρακλῆς*), i. 34, 119; ii. 10.  
Haris-al-Samâ, i. 285; ii. 134.  
Haris-al-Simâk (*Haromach*), i. 285.

IBDT-AL-JAŪZA (*Betelgeuse*), ii. 75, 132, 137, 170, 174.  
Iqû, i. 220-1; ii. 97.

KĀ, i. 84; ii. 15.  
Kabdhi-l-'inân, ii. 118.  
Kaivanu (*Kiyyûn*), i. 346.  
Kak-qasti, ii. 120-1, 130.  
Kalab-mutâni, ii. 5.  
Kalab-Samsi, i. 277.  
Karib-Barkhâti, ii. 26.  
Karpāt-Tsîri, i. 107; ii. 26.  
Kêph, (*Κηφείος*), i. 10, 30-1, 235-6, 304.  
Kesil, i. 119, 256; ii. 244.  
Khabattsiranu, ii. 97.  
Khadis, ii. 181.  
Khum-khum, i. 348.  
Kimah, i. 119, 273.  
Kisallu, ii. 5, 7.  
Kochab, i. 357.  
Kumarû, i. 90; ii. 193.  
Kusariqqû, i. 54, 337; ii. 16.

LÊSATH (*Λῆσος*), i. 76.  
Lisan-Kalbi, i. 356.  
Lubâti, i. 53.  
Lu-mâsi, i. 78; ii. 1, 110-38.

MADIS, ii. 181.  
Mamluv, ii. 24.  
Mâsu, i. 70; ii. 198-42.  
Mâtu, ii. 97.  
Mazârâti (*Mazzârôth*), i. 350; ii. 1, 4.  
Menkalinam, ii. 54.  
Mêsrê, i. 360.  
Mintaka, ii. 146.  
Misallim-mûtani, i. 348.  
Mulidtu (*Μόλιττα*), ii. 22, 117.  
Mustabarû-mûtanu, i. 348.  
Mustarîlu (*Moschtari*), i. 346.  
Mustelil, i. 346.

NĀBI, ii. 96, 217.  
Nabû, i. 244, 346.  
Nabû-tamti, i. 116.

Nakaru, i. 347.  
 Nâkhâsch, i. 30, 119.  
 Namassû, ii. 21.  
 Namgaru, ii. 15.  
 Namru, ii. 98.  
 Narkabtu, i. 359; ii. 26.  
 Nasru, ii. 26.  
 Nibiru, i. 347; ii. 96, 155, 159.  
 Nibittu, i. 65.  
 Nîru, i. 81; ii. 34.  
 Nûn-sûki, ii. 11.  
 Nûnu, i. 358.

PHOENICIAN constellations, i. 119,  
 149; ii. 51.  
 Pidnu, ii. 78, 145.

QASSIU-PEAËR (*Κασσιόπειρα*), i. 10,  
 37-8, 134-5.  
 Qastu, ii. 26, 130.

RABû, ii. 155.  
 Rahâbu, i. 90.  
 Râhi-hajiyân, ii. 215.  
 Ramânu-ikabbid, i. 108; ii. 84.  
 Rappu? ii. 157.  
 Rijl (*Rigel*), ii. 214.  
 Riksu-nûni, i. 87, 341; ii. 15.  
 Ris-ari, ii. 210.  
 Ri'nubutsamê, i. 287; ii. 14.  
 Rukûbu, i. 268; ii. 21.

SA'D-AL-DSABIH, ii. 200.  
 Sa'd-as-Suûd (*Sadalsund*), i. 358.  
 Sakib, i. 84.  
 Sar-nêri, i. 346.  
 Sarru (*Hercules*), i. 34; ii. 10.  
 Sarru (*Regulus*), i. 62; ii. 107.  
 Sarru (*Mars*), i. 347.

Sarru (*Betelgeuse*), ii. 74-5.  
 Sem. names, ii. 26, 206-13.  
 Shashurru, ii. 169-70.  
 Simâk-al-Râmih, i. 285; ii. 134.  
 Sinunûtum, ii. 92.  
 Sirâ, ii. 15.  
 Sisâ, ii. 26.  
 Skat, i. 84, 341.  
 Suhail, i. 103.  
 Sukudu, ii. 122.  
 Sukûnu, ii. 122.

TAMMUZ, i. 92-3, 197-8; ii. 23,  
 44.  
 Têmennu, i. 57; ii. 14, 156.  
 Tikpi, ii. 106-10.  
 Tsalamu, ii. 26.  
 Tsarru, i. 347.  
 Tsênê, ii. 26.  
 Tsîru, i. 360.  
 Tsîru-rabû, i. 361; ii. 26.  
 Tsuppur-sa-libbi, ii. 190.  
 Tuâme-rabûti, ii. 14.  
 Tuâmu-Gîru, i. 356.  
 UKNU, ii. 217.  
 Uzzu, i. 78; ii. 188.

YÔMU-NAHRI, ii. 5.

ZÂWIYAT-AL-'AUWA (*Zavijava*), i.  
 339.  
 Zibanituv, i. 70; ii. 15, 140.  
 Zibbat-Ari, i. 340.  
 Zibbat-Kalbi-Ari, i. 339.  
 Zîbu, i. 347; ii. 69.  
 Zû, ii. 84, 89, 141.  
 Zuben-al-chemali, i. 70.  
 Zuben-al-genubi, i. 70.

### 3. GREEK.

AETOS (*Aquila*), i. 10, 44-6, 126, 129,  
 141, 159; ii. 47-8, 194-9.  
 Aigê, i. 221.  
 Aigokerôs (*Capricornus*), i. 10, 79-82,  
 150, 218-9, 241; ii. 45-6, 233-5.  
 Aix (*Capella*), i. 16, 42, 129-31, 218-  
 22; ii. 40-1, 52, 98, 133, 152, 168.  
 Alkyonê (*Alcyone*), i. 57, 146, 273,  
 275.  
 Amaza (*Plaustrum*), i. 130, 260,  
 266-9; ii. 21, 47, 99, 110.  
 Amphoreus (*Amphora*), i. 84, 117.  
 Andromeda, i. 10, 48-50, 134-5, 215,  
 247, 284; ii. 16, 237.  
 Antarês, i. 73, 75; ii. 88.  
 Antinoos, i. 13, 23.  
 Argô, i. 10, 99-103; ii. 54.  
 Arkas, i. 283.  
 Arktophylax, i. 263, 281.

Arktos (*Ursa*), i. 10, 25-7, 133, 137-  
 8, 142, 149, 159, 233, 247-8, 250-2,  
 256-68; ii. 236.  
 Arktos Mikra (*Ursa Minor*), i. 10,  
 25, 133, 149, 153, 159, 251, 262,  
 265, 268-9; ii. 20-21, 190-1.  
 Arktouros (*Arcturus*), i. 11, 157, 282,  
 273, 285; ii. 8-9, 134, 183, 236.  
 BASILISKOS (*Regulus*), i. 62, 338; ii.  
 80, 108.  
 Boôtes, i. 10, 31, 142, 156, 158-9,  
 247-50, 263-4, 279-88; ii. 132,  
 134, 236.  
 Botrys, i. 166-7, 171, 274.

CHEIRÔN, i. 110-11, 125, 213-14.  
 Chelai (*Libra*), i. 10, 66-71; ii. 44.  
 Chelys, i. 35.

DELPHIS (*Delphin*), i. 10, 46-7, 126-7, 159, 241; ii. 116, 237.  
 Deltōton (*Triangula*), i. 10, 50-2; ii. 52.  
 Didymoi (*Gemini*), i. 10, 57-9, 179, 291-2; ii. 42-3, 231.  
 Drakōn (*Draco*), i. 10, 27-30, 129, 143, 265.  
 ENGONASIN (*Hercules*), i. 10, 33-4, 151-2, 213; ii. 10-11, 47, 236.  
 Eridanos (*Eridanus*), i. 48, 93, 96; ii. 23, 52, 205, 241.  
 Eriphoi (*Haedi*), i. 16, 129.  
 GALAXIAS (*Via Lactea*), i. 75, 103, 105; ii. 34-5, 75-6, 204.  
 Gk. names, ii. 26-7.  
 HELIKĒ, i. 221, 231.  
 Hēniochos (*Auriga*), i. 10, 40-42, 129-31; ii. 51-2, 118.  
 Hermēneis, ii. 2.  
 Hesperos-Phōsphoros, i. 150, 251.  
 Hippos, *vide* Pēgasos.  
 Hippos Protomē (*Equuleus*), i. 12, 23, 47.  
 Hyades, i. 54, 134, 142, 146-9, 156-8, 247-50, 252, 289, 338; ii. 73.  
 Hydōr, i. 87, 117.  
 Hydra, i. 10, 103-6, 144-6, 151-2; ii. 54, 87, 239-40.  
 Hydrochoōs (*Aquarius*), i. 10, 82-5, 126; ii. 12, 47, 235.  
 ICHTHYES (*Pisces*), i. 10, 85-8, 177-8; ii. 47, 235-6.  
 Ichthys (*Piscis Notius*), i. 10, 114-17; ii. 204, 240.  
 Iktinos (*Milvus*), i. 126; ii. 143.  
 KARKINOS (*Cancer*), i. 10, 59-60, 145, 151, 207-11; ii. 43, 231.  
 Kassiepeia (*Cassiopeia*), i. 10, 37-8, 134-5; ii. 18-19.  
 Kastōr (*Castor*), i. 59, 133, 359; ii. 139, 170-1.  
 Kentauros (*Centaurus*), i. 10, 109-11, 214; ii. 191-3, 240.  
 Kēpheus (*Cepheus*), i. 10, 30-1, 134-5, 235-6, 304; ii. 20.  
 Kētōs (*Cetus*), i. 10, 88-91, 135, 172; ii. 55.  
 Korax (*Corvus*), i. 10, 107-9; ii. 48.  
 Krētēr (*Crater*), i. 10, 106-7, 170; ii. 54.  
 Krios (*Aries*), i. 10, 52-4, 124, 198, 337; ii. 40-42, 228-9.  
 Kronos (*Saturn*), ii. 109.  
 Kuōn (*Canis Maj.*), i. 10, 98-9, 137, 143, 277-9; ii. 53-4, 200.

Kyknos (*Cygnus*), i. 144, 153; ii. 48, 205.  
 Kynosoura, ii. 190-1.  
 LAGŌS (*Lopus*), i. 10, 96-8, 141; ii. 53.  
 Leōn (*Leo*), i. 10, 60-3; ii. 43-4, 231.  
 Lyra, i. 10, 34-5, 126, 141; ii. 43.  
 MAIRA (*Mera*), i. 236, 279; ii. 76.  
 Mikros-Kontaratos, i. 285.  
 NEKTAR, i. 218.  
 OİSTOS (*Sagitta*), i. 10, 44, 131-2, 234; ii. 35, 44, 236.  
 Onoi (*Asellī*), i. 15-16.  
 Ophiouchos (*Serpentarius*), i. 10, 42-3, 168-9, 228; ii. 21, 49-51, 237-8.  
 Ophis (*Serpens*), i. 11-12, 44; ii. 36, 90.  
 Orīōn (*Orion*), i. 10, 67, 73-4, 82, 91-3, 119, 134, 142-4, 147, 156-9, 210, 249-50, 252-6, 275, 277-9, 282-3, 286, 288-9; ii. 23, 75, 132, 137-8, 241, 244.  
 Ornis (*Olor*), i. 10, 35-7, 159, 162; ii. 43.  
 PARTHENOS (*Virgo*), i. 10, 63-6; ii. 44, 83-5, 231-2.  
 Pēgasos (*Pegasus*), i. 10, 47-8, 126, 129, 159, 167, 171, 173, 200-2, 211-15, 308; ii. 37, 48-9, 237.  
 Peleïades, i. 139, 270-1.  
 Perseus, i. 10, 38-40, 134-5; ii. 208, 237.  
 Phatnē (*Praesepe*), i. 15-16, 360; ii. 79.  
 Pleiades (*Pleiades*), i. 10-12, 57, 134, 139, 142-4, 146-7, 153, 156-8, 236, 248-50, 252, 270-5, 357-9; ii. 156.  
 Pleias, i. 134, 231, 254; ii. 73.  
 Plokamos, i. 12-13, 23, 32.  
 Polydeukēs (*Pollux*), i. 59, 133, 359; ii. 139, 170-1.  
 Potamos (*Amnis*), i. 10, 93-6, 240; *vide* Eridanos.  
 Prokyōn (*Procyon*), i. 11-12, 99, 278-9; ii. 93, 121, 124, 129-31, 238.  
 Protrygētēr (*Vindemitor*), i. 11, 65; ii. 136-7.  
 SEIRIOS (*Sirius*), i. 11, 95, 144, 153, 156-7, 275-7, 279; ii. 120-31, 156-7, 173-4, 200, 238.  
 Skorpīos (*Scorpio*), i. 10, 71-6, 126, 128, 147; ii. 44, 232-4.

- Stachys (Spica)*, i. 11, 65-6; ii. 30, 84, 180, 183.  
*Stephanos (Corona)*, i. 10, 32-3, 148; ii. 237.  
*Stephanos Notios (Corona Australis)*, i. 12, 113-14.  
*Steropé*, i. 146, 236.  
*TAUROS (Taurus)*, i. 10, 55-7, 128-9, 297, 357-8; ii. 42, 229-30.  
*Thérion (Lupus)*, i. 11-12, 111-12, 214; ii. 7, 241.  
*Thymiatérion (Thuribulum)*, 112-13, 217.  
*Thyterion (Ara)*, i. 10, 217; ii. 8-9, 54-5, 232.  
*Toxotés (Sagittarius)*, i. 10, 77-9, 91, 114, 124; ii. 44-5, 193-4, 233, 235.  
*ZUGON (Jugum)*, i. 70.

## 4. GENERAL.

- ANU*, region of, i. 54; ii. 161-76.  
*Apus*, i. 16.  
*Arabian Lunar Mansions* i. 18; ii. 70, 74, 85, 200.  
*BÊL*, region of, ii. 161-76.  
*Bubulcus*, i. 283.  
*CAESARIS THRONON*, i. 16.  
*Cameleopardalis*, i. 17, 27.  
*Canes Venatici*, i. 17.  
*Carina*, i. 78.  
*Chameleon*, i. 16.  
*Clamator*, i. 283.  
*Clypeus*, i. 17.  
*Corolla*, i. 114.  
*DORADO*, i. 16.  
*ÊA*, region of, i. 48, 84; ii. 161-76.  
*Egyptian constellations*, i. 19, 260; ii. 75, 84, 114.  
*Ensis Orionis*, i. 16, 134.  
*GRÂHA*, ii. 99.  
*Great Stream*, i. 279; ii. 75.  
*Grus*, i. 16; ii. 24.  
*HAPTÔIRING*, i. 257.  
*Hastatus*, i. 285.  
*Hydrus*, i. 16.  
*INDIANUS*, i. 16.  
*JUGULAE*, i. 360; ii. 79.  
*Jupiter*, i. 87, 342-3, 346-7, 359; ii. 73, 129-30, 159, 164-6.  
*KARBANA (Canopus)*, i. 95, 103; ii. 126, 214-15.  
*Khunuseti*, i. 272.  
*LACERTA*, i. 17.  
*Leo Minor*, i. 17, 27, 114.  
*Libra*, i. 71, 180.  
*Livyâthân*, i. 90.  
*Lynx*, i. 17, 27.  
*MALUS*, i. 78.  
*Mao*, i. 275.  
*Mars*, i. 73, 244, 342-3, 347-8; ii. 7, 68-9, 73, 109, 160.  
*Mercurius*, i. 244, 342-3, 345-6; ii. 136, 139-40, 179.  
*Mira*, i. 91, 359.  
*Monoceros*, i. 17.  
*Musca*, i. 16.  
*PASTOR*, i. 285.  
*Pavo*, i. 16.  
*Phoenix*, i. 16.  
*Piscis Volans*, i. 16.  
*Pluviae*, i. 289.  
*Pole-star*, i. 264, 269; ii. 113, 176-86.  
*Puppis*, i. 78.  
*Pyh*, i. 275.  
*RIVERS*, the Seven, ii. 203-5.  
*SAHÛ*, i. 256; ii. 114.  
*Sapta rishayah*, i. 258.  
*Saturnus*, i. 244, 342-3, 346; ii. 140, 168, 179.  
*Septentrio*, i. 283; ii. 110.  
*Sextans*, i. 17.  
*Signs and divinities*, i. 244.  
*Sopdît*, i. 256.  
*Suculae*, i. 289.  
*TAH*, ii. 79.  
*Ti Cheh*, i. 288.  
*Tistrya*, i. 276.  
*Toucan*, i. 16.  
*Triangulum*, i. 16.  
*VANANT*, i. 75.  
*Vela*, i. 78.  
*Venus*, i. 81, 88, 154, 244, 269, 342-3, 346; ii. 32, 34, 153-4, 156, 159, 189.  
*Vulpecula et Anser*, i. 17.  
*Vultur cadens*, i. 35, 141.

## III.—GENERAL.

- ACHĒLOÛS, i. 201.  
 Ada (Atê), i. 224, 226.  
 Adonai (Adônai), i. 277.  
 Agamêdês, i. 243.  
 Ahura-Mazda, i. 276, 315.  
 Ai, i. 344.  
 Aidôneus, i. 63.  
 Ak. month-names, ii. 13.  
 Alâla, i. 45; ii. 8.  
 Aleos, i. 232, 235.  
 Alexander, i. 314-15, 317-20.  
 Allat, ii. 33, 39, 49.  
 Althêpos, i. 229-30.  
 Amaltheia, i. 221.  
 Amazons, i. 133.  
 Ammâ, i. 29, 221.  
 Amorites, i. 308; ii. 162, 244.  
 Ana (Anu), i. 245, 353; ii. 33, 69, 77.  
 Anâhita (Anaitis), i. 317.  
 Anaximandros, i. 120, 123-4.  
 Anbai, i. 244.  
 Angra-mainyu, i. 276.  
 Anna, i. 212.  
 Ansar, i. 353; ii. 68, 187.  
 Antediluvian Kings, i. 54, 332-4; ii. 78, 84, 89.  
 Aphrodîtê, i. 3, 51, 208, 244; ii. 22.  
 — Armed, i. 214, 236.  
 — Melainis, i. 206, 210.  
 — Ourania, i. 223.  
 Apollôn, i. 204, 229, 244, 290.  
 — Delphinios, i. 39, 47, 86, 127, 243.  
 Apsû, i. 42, 185, 352; ii. 204.  
 Aquaria, i. 306.  
 Arallû, ii. 33, 38-40, 91, 203.  
 Aramis, i. 225-6.  
 Arês, i. 212-13, 236, 244.  
 Argos, i. 133.  
 Ariadnê, i. 32-3.  
 Aristagoras, i. 120, 123.  
 Ark, Euphratean, i. 102.  
 Arkas, i. 232-3, 263.  
 Artemis, i. 147, 187, 213, 263.  
 — Braurônia, i. 232, 264.  
 — Diktyнна, i. 232.  
 — Ephesia, i. 133, 184, 210, 214, 232-3.  
 — Eurynomê, i. 232.  
 — Heurippa, i. 232-3.  
 — Hippia, i. 232.  
 — Kallistê, i. 232, 263.  
 — Orthia, i. 143, 232.  
 — Patroa, i. 51.  
 — Selênê, i. 67, 253.  
 — Taurika, i. 232.  
 Asar (Ostris), i. 184.  
 'Aschthârth, i. 154, 195, 223, 306; ii. 242.  
 Ashimâ, i. 225.  
 Ashtoreth Qarnâim, i. 64.  
 Ass(h)ur, ii. 68, 187.  
 Asklepîos, i. 43, 169, 228-9.  
 Astartê, i. 3, 165, 188, 202, 233.  
 Ast-No'emâ (Astynomê), i. 189.  
 Astraios, i. 155.  
 Asvinan, i. 59.  
 Atalantê, i. 263.  
 'Atar-'ati (Atargatis), i. 210, 224-5; ii. 191.  
 Atel (Atlas), i. 30, 132-3, 139-40, 205, 212, 231, 275.  
 Athamas, i. 3, 54, 197-8; ii. 212.  
 Athêna, i. 41, 225, 246.  
 — Itônia, i. 204.  
 — Onka, i. 36.  
 — Polias, i. 230.  
 Attys, i. 310.  
 Axiokersê, i. 227; ii. 217.  
 Azeus, i. 232.  
 Azi-Dahâka, i. 322.  
 BAAL HAMON (Palaimôn), i. 138, 238, 263; ii. 12, 242.  
 — Katsiu, i. 30.  
 — Kronos, i. 197.  
 — Middoh, i. 138.  
 — Tars, i. 237, 307.  
 — Trophâ, i. 138, 243.  
 — Tsephôn, i. 30, 236, 305.  
 Baalâth, i. 38.  
 Babel, Tower of, i. 69; i. 86, 98.  
 Bâbilu (Babylôn), i. 221, 314-22; ii. 101, 103, 136, 189.  
 — Bab-ili, i. 314; ii. 97.  
 — Ka-dingira, i. 314; ii. 219.  
 — Suanaki, i. 314.  
 — Tintirki, i. 314; ii. 86.  
 Bahû, i. 85, 305; ii. 88.  
 Bakchos, i. 193.  
 Barsipki (Borsippa), i. 327; ii. 103, 187.  
 Bee, i. 172, 184, 186, 216, 310.  
 Bêl-êthân, i. 246, 350, 357.  
 Bellerophôn, i. 207, 211, 214, 253.  
 Bêlos, i. 112, 319, 328, 331, 353; ii. 101, 140.  
 Bêlu Marûdâku, i. 244, 289; ii. 10, 74, 88, 104, 205.  
 Bêr, i. 357; ii. 218.  
 Bêth-êl, i. 30.  
 Boreas, i. 305.  
 Boundary-stones, i. 125, 209; ii. 28-36.  
 Britomartia, i. 32, 189, 284.

- CADUCEUS, i. 172.  
 Camillus, i. 356.  
 Chimaira, i. 215-16.  
 China, i. 18-19; ii. 4, 64-5, 67, 75.  
 Coin-types, Achaia, i. 218-22.  
     Aigai, i. 218-22.  
     Aigaion Islands, S., 191-2.  
     — N., 192-4.  
     Aigina, i. 207-11.  
     Aiolis, i. 182-3.  
     Akarnania, i. 203.  
     Akragas, i. 194-5.  
     Alea, i. 231-2.  
     Alos, i. 197-8.  
     Apollônia, i. 176.  
     Aptera, i. 187.  
     Argolis, i. 228-31.  
     Arkadia, i. 231-6.  
     Arvad, i. 165, 167, 188.  
     Ashqelûn, 165, 167, 188.  
     Atarneus, i. 176.  
     Attikê, i. 162, 207.  
     Boiôtia, i. 203-7.  
     Dôris, i. 187.  
     Eastern Hellas, i. 238-9.  
     Élis, i. 222.  
     Epeiros, i. 202-3.  
     Ephesos, i. 183-4.  
     Epidauros, i. 228-9.  
     Eryx, i. 195.  
     Etruscan, i. 170-2.  
     Gadir, i. 166.  
     Gambrión, i. 176.  
     Gauls, i. 164.  
     Hadrianothera, i. 176, 265.  
     Hellenic Italy, i. 236-8.  
     Illyria, i. 202.  
     Iolla, i. 176.  
     Iônia, i. 183-7.  
     Itanos, i. 188-9.  
     Kephallênia, i. 223.  
     Khilak (Cilicia), i. 162-3, 165-8.  
     Korinthos, i. 211-18.  
     Korkýra, i. 203.  
     Kossoura, i. 164, 168.  
     Krêté, i. 187-91.  
     Kypros, i. 163, 165, 167-8.  
     Kyzikos, i. 176-9; ii. 29.  
     Lakônîkê, i. 228.  
     Lampsakos, i. 179-80.  
     Larissa, i. 199.  
     Lokris, i. 203.  
     Lydiau, i. 174-5.  
     Lykian, i. 172-4.  
     Makara, i. 174.  
     Mallos, i. 166.  
     Megara, i. 207.  
     Messênia, i. 228.  
     Milêtopolis, i. 180.  
     Motyé, i. 164-6.  
     Orchomenos, i. 204-5.  
     Coin-types, Panormos, i. 164, 166-7.  
     — Parion, i. 180-1.  
     — Phaistos, i. 145, 190.  
     — Pherai, i. 200-2.  
     — Phoenician, i. 162-70.  
     — Phôkis, i. 203.  
     — Plakiê, i. 181.  
     — Priâpos, i. 181.  
     — Prokonnêsos, i. 181.  
     — Sexti, i. 166.  
     — Sikelia, i. 194-7.  
     — Solous, i. 166.  
     — Stymphâlos, i. 234-5.  
     — Tanagra, i. 205-6.  
     — Tarz (Tarsos), i. 163, 165, 167.  
     — Tegea, i. 235-6.  
     — Teôs, i. 186.  
     — Thasos, i. 192-4, 298.  
     — Thêbai, i. 206.  
     — Thessalia, i. 197-202.  
     — Troas, i. 182.  
     — Troizên, i. 229-31.  
     — Tsidôn, i. 168.  
     — Tzur (Tyre), i. 163-4, 167-8.  
     — Vaga, i. 162.  
     — Zakynthos, i. 223.  
 Constellation subjects—  
     — Etruscan, ii. 53-4.  
     — Euphratean, ii. 28-58.  
     — Gems, i. 301-3.  
     — Hittite, i. 307-8; ii. 49-50.  
     — Kretan, i. 298-301.  
     — Kypriot, i. 305-7.  
     — Mithraic, ii. 55-8.  
     — Mykenaian, i. 298.  
     — Phoenician, ii. 50-1.  
     — Shields, i. 303.  
     — Tirynthian, i. 296-7.  
     — Troian, i. 295-6.  
     — Vases, i. 303-5.  
 Cupid, i. 115; ii. 91.  
 DADDA (Adôdos), i. 225.  
 Dagan, i. 189, 226, 357.  
 Dagôn, i. 41, 188-9, 357; ii. 12.  
 Dârayavaush (Darius) I., i. 9, 172, 315-6; ii. 14.  
 Davkina, i. 353.  
 Decans, i. 341.  
 Démêtêr, i. 157, 204, 244.  
     — Hippias, i. 127, 188.  
     — Melanis, i. 207.  
 Derketô, i. 49, 88, 115, 188, 224; ii. 91.  
 Didô, i. 212.  
 Diktyнна, i. 189-90.  
 Dionysos, i. 3, 32, 81, 107, 186, 193, 199, 232, 254, 302.  
     — Bassareus, i. 175.  
     — Dimorphos, i. 182.  
     — Diphnês, i. 182.

Dionysos, Melanaigis, i. 130, 206, 219.  
 — Nyktêlios, i. 206.  
 — Pelekys, i. 182, 300-1.  
 — Taurogenês, i. 182.  
 — Taurokerês, i. 182.  
 — Tauromaphos, i. 182.  
 — Taurôpos, i. 182.  
 Dioskouroi, i. 59, 168, 171-2, 192.  
 Dâzi, Dâwûzi (Tammuz), 92, 105, 253, 288; ii. 44, 97, 182, 180, 216, 241.  
 ÊA, i. 115, 188-9, 231, 245, 356-7; ii. 21, 33, 91.  
 Êabani, i. 3, 111; ii. 54, 56.  
 Eagle, two-headed, i. 308.  
 Elagabalus, ii. 76.  
 Êl-Êlion, i. 231-2.  
 Elieus, i. 232.  
 En-lil, i. 353.  
 Ennead, the, i. 354.  
 Ênu Bîli, i. 328, 331; ii. 100-1.  
 Eôs, i. 253.  
 Erebhno'emâ, i. 29, 49.  
 Erebos, i. 29.  
 Erechtheus, i. 41, 304.  
 Eri-aku (Ariêch), ii. 101.  
 Eridu, i. 115-16; ii. 93, 157.  
 Êrigeneia, i. 154.  
 Etanna, i. 141; ii. 48.  
 Euphratês, i. 95, 240; ii. 23, 92-3, 96.  
 Eurôpê, i. 29, 192.  
 Eurynomê, i. 29, 155, 188, 247.  
 GAD, i. 36.  
 Gargamis, i. 115, 309.  
 Gaza, i. 232.  
 Gê, i. 41, 49.  
 Gephyraioi, i. 205.  
 Gibil, ii. 76, 80.  
 Giddê, i. 36.  
 Gilgames(h), i. 39, 46, 68, 111, 151, 213; ii. 10, 41, 47, 54, 56.  
 Great Goddess, the, i. 32, 65, 214, 307, 309.  
 Gryphon, i. 164, 172, 179, 186, 216; ii. 29, 37.  
 Gula, i. 85; ii. 83, 204.  
 Gurra, ii. 83, 204.  
 HADAD, i. 225, 310.  
 Hare, lunar, i. 97, 294-5; ii. 214, 225, 238.  
 Harekhal, *vide* Hêraklês.  
 Hêbê, i. 289.  
 Hekatê, i. 3, 155, 200.  
 Hêlios, i. 39.  
 Hêphaistos, i. 244.  
 Hêra, i. 244, 262, 336.  
 — Akraia, i. 212.

Hêraklês (Harekhal), i. 3, 29, 35, 39-40, 63, 106, 145, 192-3, 200, 203, 216, 233-5, 289-90, 308; on coins, *passim*; ii. 10.  
 Hermês, i. 34-5, 97-8, 243-4; ii. 139-40.  
 Hesperides, i. 29.  
 Hestia, i. 244.  
 Hiddeqel, i. 95; ii. 23.  
 Hierâpolis, i. 115, 310.  
 Hippokrênê, i. 201.  
 Hittites, i. 307-12; ii. 49.  
 Hyas, i. 147.  
 Hygieia, i. 228, 243.  
 IKARIOS, i. 107.  
 Il, i. 29.  
 Indra, i. 53, 84.  
 Inô, i. 212.  
 Iâ, i. 227.  
 Iolâos, i. 202, 216, 233.  
 Isis, i. 115.  
 Is(h)tar, i. 64-6, 133, 207, 223-4, 238, 244, 346, 350; ii. 22, 41, 44, 83, 91-2, 133, 154, 156-9, 169.  
 Îtônos, i. 8, 188.  
 JUPITER, i. 237.  
 KABIRÎM, i. 43, 168-9, 182, 191, 356; ii. 187.  
 Kaldai, i. 313.  
 Kallistô, i. 234, 263-4.  
 Kambujiya (Cambyzes) II., i. 118, 315.  
 Kampê, i. 216, 302.  
 Kandâôn, i. 254.  
 Kar (Ikaros), i. 284, 303.  
 Kassêba, i. 38, 345; ii. 19.  
 Kas Utu, i. 361.  
 Kêdaliôn, i. 255; ii. 50.  
 Kerberos, i. 277, 290.  
 Kha-Êa, i. 116; ii. 155.  
 Khamman (Hamon), i. 40, 263.  
 Khammurabi, i. 314; ii. 100-1.  
 Khasis-adra, i. 189, 351.  
 Khemarîm, i. 90; ii. 193.  
 Khereb (Harpê), i. 89, 179-80, 239; ii. 53, 70-72, 80, 104.  
 Khshayârshâ (Xerxês), i. 316.  
 Khumbaba, i. 350.  
 Kidên, i. 118, 319.  
 Kirkê, i. 3, 197, 246.  
 Kisar, i. 353.  
 Kosmic periods, i. 332-5.  
 Kronos, i. 3, 29, 40, 111, 141, 154, 244, 335.  
 Kua, ii. 81.  
 Kudar-Lagâmar, ii. 100-1, 164.  
 Kuras (Cyrus), i. 315.  
 Kusu, ii. 91.



Kybelê, i. 184, 214, 309.  
Kypselos, i. 212, 305.

LADÔN, i. 29.  
Lakhmu, i. 352.  
Latarak, ii. 85.  
Leukothea, i. 212, 235.  
Linos, i. 35, 235.  
Lugal-tudda, i. 140; ii. 89.  
Lunar Zodiac, i. 17; ii. 59-105.  
Lykâôn, i. 221.

MÂ, i. 309.  
Marduk, i. 87, 89, 116, 231, 234;  
    *vide* Bêlu Marûdûku.  
Mâtu, i. 222; ii. 98, 217.  
Melekkhet-qârtha, i. 230.  
Melqârth, i. 39, 46, 51, 232, 238,  
    253-4, 291; ii. 10-11, 208.  
Mênê, i. 36.  
Mermer, i. 84, 219; *vide* Ramânu.  
Metonic Cycle, i. 125, 323-5.  
Milhgardhsormr, i. 105.  
Mithra, i. 285, 317; ii. 19, 55-8.  
Mithraic Art, i. 74; ii. 56-8.  
Môlek, i. 230.  
Month-divinities, ii. 33.  
Mul-lil, i. 246, 267, 357.  
Mummu, i. 89, 352-3.  
Mylitta, i. 350; ii. 22.

NABÛ (NEBÔ), i. 214, 346; ii. 136,  
    140.  
Nabûkudurra-utsur III. (Nebuchad-  
    rezzar), i. 314, 361; ii. 21.  
Nabûnatsir (Nabonassar), i. 328-9.  
Nabûriânos, i. 118, 319.  
Nâna, i. 309, 317, 357; ii. 76.  
Nannar, i. 56, 59, 345; ii. 19.  
Nauplios, i. 136.  
Nazarâtos, i. 281.  
Nekyia, i. 246, 253, 290-1; *vide*  
    Arallû.  
Nemesis, i. 36.  
Nergal, i. 73, 75, 244; ii. 73, 85.  
Nestôr, Cup of, i. 270-1.  
Ninip, i. 244, 357; ii. 197, 199, 218.  
Ninkigal, ii. 33, 89-90.  
Ninos, i. 226.  
Nisroch, ii. 68.  
Nuzku, ii. 79-80, 139-40.

QANNÊS, i. 188.  
Ôgênos, i. 354.  
Ôkeanos, i. 42, 89, 105, 111, 155,  
    354; ii. 90, 204, 241.  
Ôlenos, i. 221.  
Omar, i. 27.  
Omphalê, i. 309.  
Ophîôn, i. 29, 304.  
Ortygia, i. 253.

Ousôos, i. 39.  
Oversea, i. 89.

PALAIMÔN, i. 46, 127, 210; *vide*  
    Baal Hamon.  
Palamêdês, i. 3, 136-8, 159, 199, 243.  
Papsukala, ii. 33, 133-4.  
Parsondas, i. 59; ii. 19.  
Pelops, i. 212-3.  
Phaëthôn, i. 93, 96; ii. 205.  
Phrixos, i. 198; ii. 125.  
Planetary gods, i. 335.  
Polygnôtos, i. 138; ii. 39.  
Poseidôn, i. 3, 41-2, 46, 48, 165, 178,  
    188-9, 208, 212, 222, 230-1, 246,  
    356-7; ii. 12.  
    — Erichthonios, i. 42.  
    — Hipparchos, i. 42.  
    — Hippios, i. 42, 233.  
    — Ôlenios, i. 42.  
    — Taraxippos, i. 42.  
Promêthêus, i. 140.  
Pûshan, i. 81, 219.

QADMU (Kadmos), i. 2, 140, 147.  
Qarth-hadasth (Carthage), i. 169, 314.  
Qôl-pîa'h (Kolpia), i. 39, 305.

RÂ, i. 39.  
Ramânu, i. 84, 219, 231; ii. 41, 47,  
    84, 216-7.  
Reduplication, Law of, i. 12; ii.  
    223-4, 236.  
Regiones Coeli, i. 25; ii. 185.  
Rhamas, i. 84, 219, 231, 350.  
Rhea, i. 29, 32, 221.  
Rhotamenti (Rhadamanthys), i. 184.

SABIANS, ii. 179-80.  
Sagimu, ii. 89, 96.  
Sakaia, i. 351.  
Salambo, i. 350.  
Samas (Shamash), i. 344-5; ii. 33,  
    48, 75-6, 245-6.  
Sanda (Sandôn), i. 308.  
Saqqâra, i. 69; ii. 163.  
Sarôn, i. 230.  
Saros, i. 323, 334.  
Satyrs, i. 112; ii. 191.  
Schachar, i. 49.  
Schamêmêrum, i. 39, 231.  
Seilênos, i. 196.  
Selênê Taurokerôs, i. 227.  
Selenkos, i. 320-1.  
Semiramis, i. 223-7.  
Serâphîm, ii. 82.  
Shû, i. 235.  
Sin, i. 60, 352; ii. 33, 72, 81, 85,  
    104-5.  
Sinakhi-erba (Sennacherib), i. 329.  
Sirîôn, i. 276.  
Sisêthês, i. 84.

- Skirôn, i. 207-8.  
 Soudînos, i. 118, 319.  
 Sphinx, i. 179, 186.  
 Star-worshippers, ii. 176-80.  
 Sârya, i. 86.  
 Sym-Plegades, i. 271.  
 Syria, i. 226.  
  
 T'AMMUZ, i. 54, 92-3, 96, 197-8, 225, 231, 277, 288; *vide* Dûzi.  
 Tân, i. 188, 205.  
 Taras, i. 237.  
 Tarku, ii. 49.  
 Tartak, i. 262; ii. 180.  
 Temple stars, i. 336.  
 Thavath, i. 89, 352.  
 Thorr, i. 84, 219.  
 Tiâmat, i. 89, 108-9, 352-3; ii. 71, 88.  
 Titânes, i. 140.  
 Tortoise, i. 207-11, 296.  
 Triptolemos, i. 207.  
 Triquetra, i. 172.  
 Trophônios, i. 243, 255.  
 Tusna, i. 37.  
 Tutu, i. 177; ii. 29.  
 Tyche, i. 37.  
 Typhôn, i. 31, 115.  
  
 ÛDAGAN (Ôdâkôn), i. 357.  
 Ummân-Manda, ii. 100-1.  
 Unicorn, i. 57, 297; ii. 37, 104-5.  
 Uras, i. 84, 229.  
 Urû-dug (Merôdach), i. 277.  
  
 Urû-ki, i. 345.  
 Utu, i. 345.  
 Uz, i. 80.  
  
 VENUS, i. 115; ii. 91.  
  
 WADD, i. 225.  
 Wheel, i. 216.  
  
 YAPHETH (Iapetos), i. 155.  
 Yara, i. 254; ii. 216.  
 Yule, i. 80.  
  
 ZAMAMA, i. 45; ii. 197.  
 Zaps, i. 42; ii. 204.  
 Zarathustra, i. 276.  
 Zas (Zeus), i. 354.  
 Zeus, i. 156-7, 230, 244, 246, 272; ii. 246.  
 — Aphesios, i. 231.  
 — Dôlônaïos, i. 272.  
 — Kasios, i. 38.  
 — Labrandeus, i. 199, 301.  
 — Laphystios, i. 197.  
 — Lykaïos, i. 221, 236, 263.  
 — Mellichios, i. 51, 230.  
 — Palamnaïos, i. 198-9.  
 — Tarsios, i. 237.  
 Zikum, i. 352.  
 Ziqqurât, i. 69, 327; ii. 33, 104.  
 Zogânês, i. 351.  
 Zôros, i. 229.  
 Zû, ii. 141.

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'Mr. Andrew Lang is a dexterous controversialist, wielding the sharpest of rapiers. But he does not have it all his own way. Mr. R. Brown is an expert, but he can be playful; and in the first half of this volume he has a series of passages at arms with Mr. Lang, and does sometimes dialectically "draw blood" . . . Totemism, fire stealing, bear-cults, mouse-cults, earth-myths, dawn myths, Mr. Brown has a "go" at them all, and Mr. Lang will need to sharpen his rapier once more.'—*The London Review*.

'A work which ought to find a place on the shelves of all students of myths and folklore . . . Admirably written.'—*Echo*.

'This is a lively and vigorous assault-at-arms in three bouts, defensive, offensive, and constructive . . . In the second part Mr. Brown takes up . . . his axe . . . and butchers Mr. Lang on his own account . . . On the intrinsic and fundamental issue we find ourselves in substantial agreement with Mr. Brown's contention that old Greek myths and Greek religion contain a considerable admixture of Semitic and other Oriental elements . . . Mr. Brown is doing a good service in amassing and emphasizing the evidence.'—*Manchester Guardian*.

'A substantial contribution to mythological study.'—*Glasgow Herald*.

'Real knowledge of Euphratean mythology.'—*Literature*.

'A clever interesting volume . . . the student of mythology will find many things delightfully well put.'—*Expository Times*.

'Mr. Brown is probably right in emphasizing Semitic influence on various myths.'—*The Literary World*.

'Mr. Brown playfully criticizes the two authors [Prof. Max Müller and Mr. A. Lang] above mentioned, leaning somewhat to the side of Prof. Max Müller.'—*The Oxford Magazine*.

'There are many features in the classical mythology that we learned at school which are plainly not of Greek origin. Whence do they come? Mr. A. Lang thinks they can be traced to the beliefs of savages; but Mr. Brown thinks they were borrowed bodily from the civilized inhabitants of Western Asia. It is most probable that Mr. Brown is right

. . . Mr. Brown has done good work . . . and has in particular made much progress in the identification of the Babylonian constellations with the Greek.'—*Academy*.

'Into the midst of the battle of the three principal directions of Mythological Science in England, the Author leads us with lively and often delightful humour. Max Müller has put together his thoughts concerning language, myth and religion in the *Contributions to the Science of Mythology*, 1897. The Arians had before their separation, a formulated belief in divinities, in which they embodied the great natural phenomena, namely the Solar. Once more does Andrew Lang, his old adversary, fight him in his [Lang's] *Modern Mythology*, with the insufficient weapons of his known anthropological theory. Though Brown declares himself full of respect for the former and finishes off the latter with sharp humour, still he blames Müller for several weaknesses; and, more especially, as a principal fault, for his disinclination to admit that so many Hellenic divinities and mythical stories can be explained by Semitic influence. Most certainly the powerful Semitic cult-centre on the Euphrates carried forward an influence more clearly seen year by year from new discoveries, not only on domestic life and knowledge, but also on the belief of Hellas. Brown recognizes Semitic extraction in a Greek divinity (1) If the name and its principal myths do not appear in the other Arian mythologies; (2) If Arian nature-myths provide no simple and appropriate explanation of its existence; (3) If its cult is found in territory either non-Arian, or governed by non-Arian influence; (4) When the form is more or less unanthropomorphic; (5) When the character and history harmonize with the character and history of non-Arian divinities; and (6) When Arian philology is not in a position to explain its name, and some or most of its principal features. Thus does he explain Kronos, Poseidon, Dionysos, Aphrodite and Herakles as Semitic beings; but further, also Ino, Athamas = Tammuz, Kirke, Hekate, the Ilia Athenae, the picture of the Under-world Nektia, and the Greek constellations.'—*Anzeiger für Indogermanische Sprach- und Altertumskunde*.

## PRIMITIVE CONSTELLATIONS. VOL. I.

'Comparisons and identifications which are very suggestive.'—*Literature*.

'Mr. Brown has long been known as a most diligent student of astronomical archaeology, and his translation of Aratus, with the notes accompanying it, was highly valued by all who take an interest in the early history of astronomy. The object of his present work is to trace back the constellations as near as can be to the time and place of their origin. That place Mr. Brown finds to be the Valley of the Euphrates, and the earliest people to which he is at present able to follow them are the Akkadians. The present volume is chiefly occupied with a translation of the star catalogue of the *Almagest*, and with establishing that the early Greek writers, and Homer in particular, were well acquainted with the constellation figures. Much of this is thoroughly pioneer work in a region of extreme interest and no little importance, and Mr. Brown is the first person who has carried it on with anything like the same system and labour. His scholarship is wide, his industry is inexhaustible. Our debt to him is great . . . The book shows immense learning and research.'—*Journal of the British Astronomical Society*.

'All must agree that Mr. Brown has done good service by his translation of, and commentary on the works of Aratus, and he has brought a vast amount of learning and ingenious suggestion to bear on this exposition of his views.'—*Folk-lore*.

'There is much to support the view that the constellations in something like their present form originated in the lands through which the Euphrates runs perhaps as early as 2000-3000 B.C., and that a knowledge of them passed to the Greeks long afterwards. It is one of the forms of this theory that Mr. Brown champions in the book before us with great learning and enthusiasm.'—*Saturday Review*.

'Mr. Brown's labours undoubtedly belong to the region of genuine scientific research. The writer is neither a sciolist nor a learned man whose imagination has run away with him. He has always a reason for what he thinks, and to the best of our judgment, generally a good reason. . . . His work may be recommended to the study even of those who may take little interest in the history of the constellations as a peculiarly instructive and convincing illustration of the close intellectual connection of the chief nations of the ancient world, and of the extent to which Greece was influenced by Babylonia.'—*The Speaker*.

'It is beyond dispute that Mr. Brown's books, and the present one in particular, have a very high value . . . The present book stands out as the most serious and scientific attempt yet published to trace the old constellation figures back to their origin. Mr. Brown traces the primitive constellations of the Greeks—those, that is to say, that are described for us in the *Phainomena* of Aratos—back to the early inhabitants of the Euphratean Valley, and particularly to the Akkadians, from whom the Greeks derived them through the Phoenicians, the Hittites, and the later (Semitic) Babylonians . . . There can be little doubt that, so far as there is evidence at present available, he proves his point.'—*Knowledge*.

'Mr. Brown places in a connected form the result of the investigations of many years respecting the employment of the Signs of the Zodiac and of the other time honoured constellation figures of the classical world. The translation of the star list is accompanied by notes showing the connection of the majority of the constellation figures with Phoenicia and the Euphrates Valley.'—*Literary World*.



'Astronomy is probably one of the very oldest of sciences; its origin is lost in the most remote antiquity, and we do not even know how or when the constellation figures were developed, although these indicate a very advanced stage of astronomical knowledge. Mr. R. Brown has just published the first volume of a series of scholarly researches into the history of the Primitive Constellations, which contains a mass of information upon the state of astronomical science in Babylon and Greece. In opposition to some previous inquirers, the author considers that the ancient astronomers did not group the stars in the shape of certain figures because their grouping resembled these figures, but that they first selected the figures, and then arranged the stars within their outlines. Much evidence is given in support of this view, especially from the Hipparcho-Ptolemy star-list and Greek literature generally. There seems every reason to believe that the Greeks obtained their knowledge of constellations and astronomy generally from Asia, especially the region of the Euphrates. Mr. Brown's work contains an enormous number of classical references and can be confidently recommended to all those interested in this subject.'—*Westminster Review*.

'The present volume is mainly concerned with the Hellenic history of the signs, including their place in the art of the various nations with whom the earlier Greeks came into contact, and concludes with a notice of the Græco-Babylonian period of Seleucus and his successors. In a second it is proposed to trace the constellation figures backwards from the era of Alexander to their first appearance in the dawn of history. Mr. Brown has gone into the matter very elaborately and with great wealth of illustration, which cannot fail to render his work of high interest to the student of ancient literature and science.'—*Notes and Queries*.

'So much has been done now in the publication of Babylonian and other tablets that it is possible to make hopeful research into the primitive astronomy, and to reach conclusions that are approachably scientific and final. Mr. Brown claims no more than that. But he claims that, and makes it good. He has no revolutionary theories; his work is on the lines of the great scholars; but he is original and painstaking, making actual new contributions to the subject. Moreover, he has succeeded in retaining the reader's interest throughout, no doubt by the simple process of being always interested himself. This volume is the first of two. It carries the history of the constellations through the Hellenic period. The second will trace the Signs from the age of Alexander back to the dawn of history—a period of deeper and yet more difficult interest.'—*Expository Times*.

'Many years of laborious and conscientious study must have gone to the collection and sifting of the facts with which his pages are crammed. One chapter is devoted to showing that the Stellar Catalogue of Ptolemy contained in his "Almagest," is practically an edition of the earlier Star List of Hipparchos, and to a transcription and elaborate examination of the list, with the object of identifying the constellations therein contained with figures in classical, Phœnician, and Babylonian mythology. . . . A fruitful field of corroborative evidence and illustration is found in the Greek coins and in Homeric references, all pointing back, as the author holds, to an origin in the primitive civilization in the Euphrates Valley.'—*Scotsman*.

'The author has in previous works established his right to be heard as the exponent of an intelligent theory of the origin of myths, differing on the one hand from the solar theory, mainly associated in this country with the name of Prof. Max Müller, and on the other from the folk-lore theory advocated by Mr. A. Lang. He has also in the view of many good authorities established the intercommunication of myths between the great races of mankind in a way that not long ago was thought impossible. . . . The book is one of extraordinary erudition.'—*Glasgow Herald*.

'We have little but praise for Mr. Brown's latest contribution to the history of science and mythology, or of science in its mythological stage—a "border-land" on which he moves with an ease and assurance which we admire. With Mr. Brown's fundamental contention that a large debt to the Orient is to be recognized in Greek civilization and thought, we have on previous occasions expressed our general agreement. We gladly recognize that in the present volume the author has fortified that contention by a careful argument and a mass of evidence dealing with the *origines* of Greek astronomical myth and science. Mr. Brown makes out a strong case for recognizing Babylon as the ultimate source of much that has passed for original Greek observation, speculation, and construction.'—*Manchester Guardian*.

'Mr. Brown has devoted himself to this and kindred subjects for years, and in the work, the first volume of which is before us, the ripest fruits of his years of study will be presented. An enthusiastic student of Greek literature, deeply imbued with Semitic learning, the author has endeavoured to show in his various works the Semitic influence in Greek mythology and life. His services in this field commend him to the regard of a wide circle of scholars. The book before us increases their debt to him. . . . The chapter on Babylonian astronomy makes good use of both Greek and cuneiform sources, and gives excellent promise for the rest of the work, which Semitic scholars will await with interest.'—*The American Journal of Theology*.



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